INDUSTRIAL EQUIPMENT NEWS

MAY - 1950
VOL. 15 • NO. 5

The Original IEN FOUNDED 1933

INDUSTRY'S MOST COMPLETE PRODUCT INFORMATION SERVICE

What's New IN EQUIPMENT, PARTS, MATERIALS

AFFILIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

Product Information for specifiers and buyers in all industries

IEN - 4107

DOOR OPERATOR . . Hydraulic unit for two way action is touch actuated

Source: PITTSBURGH PLATE GLASS CO.
634 Duquesne Way, Pittsburgh 22, Pa.

Pittomatic trade names one electric-hydraulic self-contained door operator initially developed by the company for use on its all-glass Herculite doors. The operator illustrated is applied on a 250 lb. glass door. Application can be made to single or double swing doors of any size and weight.

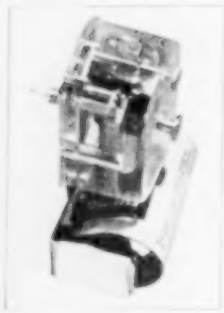
Actuation centers in a sensitive switch enclosed in the door handle which extends vertically from near the floor upward to about the center of the door height. The handle is on both sides of the door and can be set to start the action in either push or pull direction or both. The only effort required is the slight touch that will close the switch contacts and energize the control operating circuit through an operating and direction-control housing to the motor-driven hydraulic power unit, all shown in the illustration. This unit employs a high-pressure oil pump to supply pressure to the hydraulic mechanism that forms a part of the door hinge in the floor.

The action can be set so the door will open about 6" traffic-open initial touch. It can be adjusted to require any amount of assisting push or pull. Adjustable spring action opposing the hydraulic pressure will hold the door closed against wind pressure. Power operation does not interfere with manual opening in the event of power failure.

IEN - 4108

TIMING . . Battery operated clock for use as control element in timing

Source: EL PRODUCTS CORP.
501 Madison Ave., Room 1106, New York 22, N. Y.



Elix 365 is a new Swiss self-starting clock movement that employs an electro-magnet powered by a Type-D flashlight battery to advance the minute hand in 1/5 sec. increments under control of the spring-actuated balance wheel escapement. Oscillation of the balance wheel makes and breaks the circuit between battery and magnet, is adjustable for accurate timing action. The intermittent, pulsed circuit flow are so short that drain on the battery is negligible and battery service life is practically the manufacturer's shelf life.

The jeweled movement is enclosed in a transparent plastic housing and legs are provided on the outside to raise the camera. Torque setting at the hour shaft is 8 oz. at ½ in. from center. Mounting is by a single bolt on the center hub. Dimensions without the battery are 3⅝ in. in width, 1¼ in. depth, 2⅝ in. height. List price is $11.25.

All Makers of These And All Other Products Are Listed in THOMAS REGISTER . . Descriptions . . Ratings . . See Page 56

FILL IN AND SEND ALONG TO OTHERS INTERESTED IN PRODUCT INFORMATION

Plant Operating Mr.

Production Mr.

Engineering Mr.

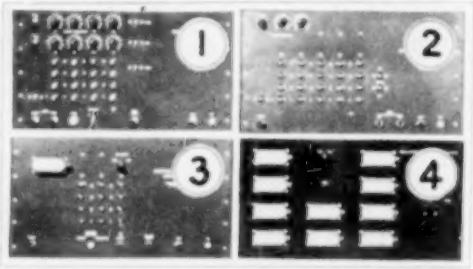
Product Design Mr.

Purchasing Mr.

IEN - 4109

CALCULATOR . . Electronic computer for problems in production by machine

Source: POTTER INSTRUMENT CO.
136-58 Roosevelt Ave., Flushing, N. Y.



Time Study Computer (acquisitive non-print assemblies of adder-unit and time-control sensing, calculating and register units) consists of control equipment to provide highly accurate evaluation of the operation of a number of automatic production machines. The computer will function in a number of versatile, but specific ways to be obtained from the machines in any period of actual operation. It covers the operation of a minimum of two machines in operation at one time with some chips from the stock bins.

The panels shown in the illustration contain those required for one machine. In the actual installation there are five of No. 1 and one each of the others. These are put into a three-section assembly about 6 ft. in height. Each section is about 2 ft. in width. Any machines with an automatic cycle that requires attention for loading, adjustment or inspection can be employed. Milling, drilling, threading, grinding, screw machine production are representative. The computer unit at about $12,000, requires three months to build and can pay for itself in six.

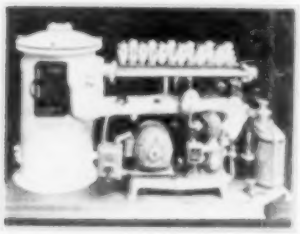
Each machine counter, 1, contains two rows of dial switches to set up reading and running time to provide control to existing time studies. Any increment of time, such as .001 minute, can be used. The cycle-time counter, 2, permits switches to set up the problem time or the overall period on which the computation will be based. The starting-time counter, 3, records a six-digit electro-mechanical register and a three-digit electronic counter to make a total of nine digits of time registration. The starting time which an operator will have when assigned to a particular combination of machines, will be registered on this panel in any desired time increments. Finally the machine-cycle registers are assembled on the panel 4 to record the number of times each machine starts and stops for the given problem.

A button is pressed, following the setup operation on the panels, and the computer monitors the actions of the operator and the machines at a speed of 1,000 elements of time per sec. to read production on each machine assigned to the installation. It will show also the starting time during which the operation is not loading any machine.

IEN - 4110

DRYING . . Vacuum equipment sublimes moisture from frozen materials

Source: F. J. STOKES MACHINE CO.
5956 Tabor Road, Philadelphia 20, Pa.



Model 103-FPM is a new freeze-drying assembly in which containers of materials to be dried are frozen and then are connected to a vacuum manifold served by a three-stage vacuum pump. The unit of evaporation (ice crystals) extracts the moisture from the materials to the atmosphere without passing through the liquid phase at any temperature. Since the materials are dried without subjecting them to a high temperature, the original texture, color, taste and vitamin content are preserved. The vapor is condensed in the refrigerated freezing compartment from the suction line to the vacuum pump.

The refrigerating equipment has a batch capacity of 3,500 ml. and total capacity of 7,000 ml. It is served by a compressor using Freon refrigerant. A Mylard page reads vacuum developed by the compound Welsbach pump. The vacuum manifold includes 21 hose-type quick connections. It will handle a maximum of 72 containers. The assembly requires a floor space measuring 36 by 72 inches. It stands 80 in. in height.

All Makers of These And All Other Products Are Listed in THOMAS REGISTER . . Descriptions . . Ratings . . See Page 56

WHAT DO YOU NEED?

READER SERVICE FORM . . Look between pages 16 and 17 or 92 and 93 and "lift" the form you find there. Keep it beside you as you look through the pages. Note on it the numbers of the products on which you want further information. Then either mail it to us, so we can forward your requests to the manufacturers, or use it as your guide to write direct.

•

From a Plant Manager

"We had a problem on multiple drilling plastic, fiberoid, wood blocks and needed better equipment to do the job. We contacted one of your advertisers. He designed and built a special assembly and delivered it in sixteen days. It has now produced about ten thousand pieces and is going strong. It represents an 800 per cent increase in capacity over our previous practice. We are indebted to them for their fine service and are grateful to you for making the contact possible. IEN is most interesting and informative."

•

Departments

READER SERVICE FORM — Page 16-17 or 92-93

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"I WISH I HAD" — Page 108

•

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PAINTING — Page 75

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SIGNALING — Page 52

WASH ROOMS — Page 17

W. E. Smith, V. Pres. & Editor — F. Wm. Smith, V. Pres. in Charge

THOMAS PUBLISHING COMPANY
461 - 8th Ave., New York 1, N.Y.—LOngacre 3-1546

Birthday Number 17

This birthday is important for the utilization of [illegible] operational experience and improving facilities to another year of development of the product reporting service originated by Industrial Equipment News in 1933 . . to keep you posted each month on what's New in industrial products. We regret that we do not have an opportunity to thank you personally for your interest and use of this service because that is what makes the communication and further development possible.

▼ BRIEFLY—Identify by IEN-4111 if you write the maker. ▼

19 YEARS
CONTINUOUS SERVICE

Original endplay tolerance .0035" to .0055"

After 19 years in grinder service endplay .005", or no appreciable wear. Still good for further use.

(unretouched photo)

When you want the best in self-sealed, pre-lubricated ball bearings . . . come to New Departure, the originator and largest producer of this type of ball bearing. New Departure, Division General Motors Corporation, Bristol, Connecticut.

NEW DEPARTURE
BALL BEARINGS

▼ BRIEFLY—Identify by IEN-4112 if you write the maker. ▼

FREE! 32-PAGE HANDBOOK
SHOWS HOW TO STOP CONDENSATION DRIP

NoDrip

Stops Drip from
- √ Cold water pipes
- √ Water filter tanks
- √ Metal or concrete ceilings
- √ Basement walls
- √ Condensers
- √ Air Ducts
- √ Blower pipes
- √ Dust Collectors
- √ Crystallizers

Learn how you can control condensation drip from pipes, tanks, ceilings—from metal, wood or masonry surfaces.

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Anyone can apply NoDrip, the triple-duty insulation type coating. Brush it on or spray it on. Use it on pipes or equipment where temperature differences cause condensation. Save money by preventing rust and corrosion. Deaden sound. Decrease vibration on metal ducts or pipes.

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Send today for your copy of the exciting HANDBOOK which tells what this plastic cork material can do for you. It's the modern solution to condensation drip problems.

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Kalamazoo, Michigan
Dept. H, Kankakee, Ill.

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Rigidized Metals

Add Utility and Sales Appeal in 13 Ways!

There are 13 new performance characteristics in design-strengthened and textured Rigidized Metals for extra utility, added sales appeal and to make less metal do more work. If you use flat rolled metals for any purpose, you can use Rigidized Metals more profitably. Investigate! Write today!

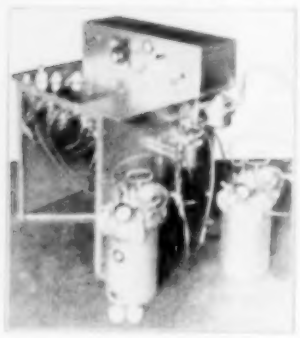
See our CATALOG in SWEET'S FILE for Product Designers

Rigidized Metals Corporation
654 Ohio St. Buffalo, N. Y.
Sales Offices in Principal Cities

▼ BRIEFLY—Identify by IEN-4114 if you write the maker. ▼

PAINTING . . Semi-automatic machine to spray small mask positioned work

Source: CONFORMING MATRIX CORP.
330 Factories Bldg., Toledo 2, Ohio



Small work pieces are positioned in spindle jigs in a plate-type mask in the table of this work machine. They are guided to the exact station as established by the mask when air or part of eight paint guns are turned on to spray from beneath the table. Paint is delivered by the guns from 2 gal. pressure tanks each with flow control valves. Speed depends largely on the operator's ability to grasp and position the work. Range is 240 to 1,000 pieces per hour.

The machine has additional controls to regulate air pressure to the guns and time to catch the amount of paint that will be applied on each operating cycle. Time for paint to settle is to be determined, as for an hours of individual pieces are processed by hand or glove workers.

The masks are the customer's distributed design previously described (IEN-4111 et). They can be changed quickly. Because the guns deliver upward and perpendicular to the under side of the work most of the overspray will drip back. A suction installation removes the paint laden air.

A belt conveyor can be added to deliver work and take finished pieces away from the machine. Two more parts can be painted one piece immediately after the other. Machine dimensions 110 in. by 40 in. by 72 in. high.

▼ BRIEFLY—Identify by IEN-4115 if you write the maker. ▼

PUMP . . Motor driven centrifugal for sump service rates 35 to 700 gpm.

Source: BYRON JACKSON CO.
Box 2017-A, Terminal Annex, Los Angeles 54, Calif.

Type H, as a unit assembly, is designed to fit in the sump with the motor on the floor above. The pump is the cantilever type mounted on the lower end of a long column pipe which extends into the liquid to be pumped. The column pipe is supported by a bearing bracket mounted on the motor base. The pump shaft is connected to the motor shaft by a flexible coupling. The impeller is open and draws the liquid in at the bottom and discharges it upward through the column pipe. The discharge nozzle is located above the floor.

Standard construction [illegible]

(If Names of Those Not All Other Products Are Listed in THOMAS REGISTER — Buyers' Guide — See Page 00)

▼ BRIEFLY—Identify by IEN-4116 if you write the maker. ▼

JUST 7 INCHES HIGH

THE DUFF-NORTON
"Shorty" JACK
LIFTS HEAVY LOADS IN LOW HEIGHTS

Write today for Bulletin AD-12-G

THE DUFF-NORTON MANUFACTURING CO.
Main Plant and General Offices: PITTSBURGH 30, PA. Canadian Plant: TORONTO, ONT.

"The House that Jacks Built"

▼ BRIEFLY—Identify by IEN-4117 if you write the maker. ▼

Cut Production Costs on small Precision Parts with Atlas 10" lathes

Handle the work big lathes can't do economically

ATLAS PRESS CO.
MATCHED PRECISION TOOLS FOR WOODWORKING AND METALWORKING

▼ BRIEFLY—Identify by IEN-4118 if you write the maker. ▼

HERE'S Dry Chemical at its fire fighting BEST!
A better powder — an improved discharge pattern — trigger-finger control — simple recharge in the field — that's the Kidde Dry Chemical Extinguisher! Write for free literature
Kidde
Walter Kidde & Company, Inc. • 536 Main Street, Belleville 9, N. J.

▼ BRIEFLY—Identify by IEN-4119 if you write the maker. ▼

FOR 8 YEARS STEADY
HAS BEEN MAKING
FOR JAS. P. MARSH CORP.

Above is one of a bourbon mill and the heart of the unique and fast operations for which Jas. P. Marsh Corp. of Chicago is justly renowned. Arrows point to the two EASY-FLO joints. These joints must be gas-tight and they must stand up under the mill's constant flexing in operation. For 8 years steady, EASY-FLO has been satisfying these exacting requirements. So, justifiably you find the Jas. P. Marsh Corp. on the long, long list of satisfied users of this remarkable low-temperature silver brazing alloy.

WRITE FOR BULLETINS 12-A & 15

They tell you why EASY-FLO makes strong, leak-tight, lasting joints at high speed and low cost—and where and how you can use it to your profit. Write for copies today.

HANDY & HARMAN 82 Fulton St., New York 7, N. Y.

▼ PRINT (1)—Above, for IEN-4120 if you write the maker ▼

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street, New York 5, N. Y.

▼ PRINT (1)—Above, for IEN-4121 if you write the maker ▼

Greater capacity
in existing conduit with
DENSHEATH
small diameter wire

DENSHEATH*
(Type TW) Thermoplastic covering

the right wire for the job **ANACONDA** WIRE AND CABLE
*Reg. U. S. Pat. Off.

▼ PRINT (1)—Above, for IEN-4122 if you write the maker ▼

BROWNING GRIPBELTS

—matched and sealed
for your protection

Each belt is placed in a testing machine which reads distance between sheave centers under a given tension. Belts with identical characteristics are assembled in matched sets, then sealed. Installation instructions accompany each set.

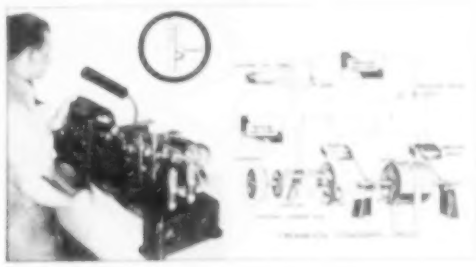
Nationwide service — write for the name of the BROWNING Gripbelt distributor near you.

BROWNING MANUFACTURING CO.
16 Chester Street Maysville, Kentucky

▼ PRINT (1)—Above, for IEN-4123 if you write the maker ▼

BALANCING . . Electronic machine to read dynamic unbalance in a rotor

Source: R. B. ANNIS CO.
1105 N. Delaware St., Indianapolis 2, Ind.



▼ PRINT (1)—Above, for IEN-4124 if you write the maker ▼

PAINTING . . Aluminum pigment, silicone vehicle for heated surfaces

Source: DAMPNEY CO. OF AMERICA
1241-45 River St., Boston 36, Mass.

Two paint coats are recommended

▼ PRINT (1)—Above, for IEN-4125 if you write the maker ▼

SCHRAMM
Pneumatractor

SCHRAMM INC. THE COMPRESSOR PEOPLE WEST CHESTER PENNSYLVANIA

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LUBRIPLATE LUBRICANT
Increased Bearing Life
from 2 Weeks to 2 Years!

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The Different LUBRICANT!

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AND BETTER
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NORMA-HOFFMANN
Precision **BEARINGS**
BALL • ROLLER • THRUST

NORMA-HOFFMANN BEARINGS CORPORATION, Stamford, Conn.

▼ BRIEFIT—Ideas by IEN - 4129 If you write the maker ▼

DESIGN PROBLEMS PLAGUE ALL OF US

To serve well, a machine part—even when made of good steel, properly treated—must be properly designed.

A new 72 page booklet, sent free on request, discusses the vital relation between design, good steel and its satisfactory treatment.

This booklet sent to you FREE

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Poro-Stone Filtration FOR COMPRESSED AIR

EFFICIENTLY REMOVES
OIL, WATER
PIPE SCALE

The Adams Poro-Stone Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 105.

R. P. ADAMS CO., INC.
219 E. Park Dr., Buffalo 17, N. Y.

ADAMS Poro-Stone AIR FILTER

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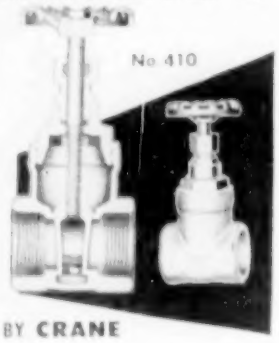
new look!
wide utility!



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NEW 100-POUND
BRASS GATE VALVES BY CRANE
SIZES ¼ TO 2 IN.

CRANE

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

INDUSTRIAL EQUIPMENT NEWS

IEN

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What's New · EQUIPMENT · PARTS · MATERIALS

Vol. 18 MAY, 1950 No. 5

Since May of 1933

It was in 1933 seventeen years ago this month that the first regular issue of Industrial Equipment News was mailed to 30,000 engineering, plant operating, production and purchasing men in the industrial field. We hoped the service would be useful to you who held responsibility in selecting of "things to do things with." Little did we realize then that we had started a new type of business publishing unit, to become a fundamental part of all published information for industry.

The editorial for new products approximately 40,000 descriptions of products which were designed and produced by many among you. We express our sincere appreciation for your interest as readers and for the financial support of the many manufacturers who are using the advertising service.

Industrial Equipment News is published primarily to bring you an editorial picture, as complete as possible, of new industrial products, services and related information, together with advertising of industrial products and services. It is mailed each month without charge to men who hold responsible positions and who have requested that their names be added to the list.

Each editorial description on the front page and in the center columns on the following pages carries a number in an identification system developed originally by IEN. The advertisers in the side columns and at the bottom of center columns are similarly identified.

You can use these numbers to name the products in which you are interested when you write to the manufacturers direct. You can list them on the reader-service forms enclosed in each issue and mail the form or use to forward your inquiries to the manufacturers.

This reader-service form can be used also to request change of the paper. If you are not now on the list, or to request address change. Or if you can name any industrial products for which you desire information.

We invite manufacturers, too, to send us information on new products and services, usually improved products, new product literature or published data on new industrial subject having practical value to our readers. We will review any descriptions of these items and will publish them without charge. Manufacturers who desire to do so may purchase space in the advertising sections and provide their own copy.

The editorial material in this issue for experienced men who are alert to make their own decisions and who don't require pampering or of unsettled facts. To find out more about what we have on file for you, just write us. Let us know your specific problems and we will be glad to help you with information, specifications and data for maintenance.

A product index, listing items by classification, is published in the first issue of each year. Each issue contains a table of contents. The reader-service forms on the other side of the envelope are given in the right hand column on page two.

We hope to make this publication valuable to the people it aims to serve by keeping you informed of the new products and services developed for your use by helping you locate sources for anything you need, by assistance in your buying, and by checking on any part that something does not seem right in IEN or in dealing with manufacturers. Please write us and tell us.

W. E. Irish

▼ BRIEFIT—Ideas by IEN - 4132 If you write the maker ▼

HIGH EFFICIENCY
DUST CONTROL
with DUCON WASHERS

- Afford the most economical and efficient control and wet suppression of dust and fumes because of superior design and unique features.

- In addition to use for washing of air and gases, DUCON Centrifugal Wash Collectors are ideal for many other applications, such as: gas absorption, condensation of solvents, heat exchange, distillation and chemical reactions.
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- Construction steel plate, electrically welded. Easy accessibility to all internal parts. Built for simplified installation.

Write for description, illustrated Bulletin CW-48-1.

The DUCON Co.
MINEOLA, N. Y.

▼ BRIEFIT—Ideas by IEN - 4133 If you write the maker ▼

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BALL BEARING UNITS

- Ask a SealMaster bearing engineer to call and actually show you the combination of interchangeable units built by SealMaster. The engineer will show how to combine a complete interchangeable line of SealMaster mounted units.
- Permanently Sealed
- Self-Aligning
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Write for Catalog 845 which gives dimensions and load ratings on the complete SealMaster line.

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Factory Representatives and Dealers in All Principal Cities

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FOOD MACHINERY AND CHEMICAL CORPORATION

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION

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No binding, backlash or rigidity. Max. bearing surface. Greatest strength.

Ask for completely descriptive literature. Valuable engineer data.

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Lengths 1¾" to 10¼"

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5014 W. Lake Street Chicago 44, Ill.

Also Mfrs. Lovejoy Flexible Couplings and Lovejoy Variable Speed Pulleys

▼ BRIEFLY—Ideas in IEN-4136 if you write the maker ▼

Step Down Motor Speeds To Job Needs WITH . . . S-A SACO Speed Reducers

It's no trick to convert your standard high speed motors to slower operation! Compact, efficient Saco Speed Reducers provide a wide range of output speeds—reductions up to 60 to 1. Almost any full speed motor can be mounted on top or end. Save floor space and maintenance costs.

Write for Saco Catalog 643

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STEPHEN S-ADAMSON Mfg. Co.

Tolleval Bin Level Controls | SealMaster Ball Bearings | Saco Speed Reducers | Car Loaders Car Pullers Winches

231 RIDGEWAY AVE., AURORA, ILL.

▼ BRIEFLY—Ideas in IEN-4137 if you write the maker ▼

NEW!

TAG Midget Moisture Meter

Checks Lumber, Woodwork—Even Plaster!

Now you can know when to paint. New TAG Midget Moisture Meter shows when wood or plaster is dry enough for peel-proof painting!

Convenient!
Just apply electrodes . . . press button . . . read percent moisture direct!

Accurate!
Compensated for battery voltage changes . . . internal polystyrene insulation!

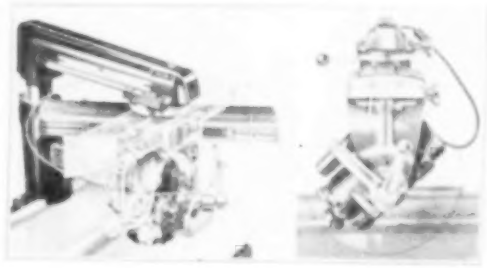
Inexpensive!
A sturdy, high-quality, low-cost precision instrument!

WESTON ELECTRICAL INSTRUMENT CORPORATION TAG
Manufacturers of Tagliabue and Weston Instruments
614 Frelinghuysen Avenue, Newark 5, N. J.

▼ BRIEFLY—Ideas in IEN-4138 if you write the maker ▼

WOOD WORKING . . Radial machine for sawing, shaping, routing, drilling

Source: POWER TOOL DIV.
602 E. Vienna Ave., Milwaukee 1, Wis.



Double-Radial . . . Excellent assembly . . .

▼ BRIEFLY—Ideas in IEN-4139 if you write the maker ▼

BOILER . . Self-contained design to 300 bhp., one burner fires oil, gas

Source: CYCLOTHERM CORP.
155-9 E. First, Oswego, N. Y.

Fuel oil . . . The burner . . . The 100 hp. size . . .

All Makers of Items Used, Sold or Other Products Are Listed in THOMAS REGISTER . . . Descriptions . . . Ratings . . . See Page 10

▼ BRIEFLY—Ideas in IEN-4140 if you write the maker ▼

TROMBETTA SOLENOID CO.
331 N. MILWAUKEE ST. • MILWAUKEE 2, WIS.

SB-373 SHOE BRAKE
10" WHEEL, 5" FACE, 450 FT.-LBS.

SB-300 LINE OF BRAKES
TORQUE 3 TO 16500 FT.-LBS.

B-100 LINE OF DISK BRAKES
TORQUE 10 TO 25000 FT.-LBS.

EIGHT LINES OF SOLENOIDS
RECIPROMOTORS AND SEMOTORS

▼ BRIEFLY—Ideas in IEN-4141 if you write the maker ▼

HEAT GASES and LIQUIDS Efficiently and Economically with CHROMALOX Heavy-Duty IMMERSION HEATERS

Corrosion Proof Immersion Heaters are suitable for heating compressed air and other gases. For water heating plants, for heating acids and caustics. Are fast and efficient heat transfer methods. Heaters can be used to heat to high temperatures and high pressure operations, where corrosion-resistant, accurate temperature and pressure control systems are essential. Why not obtain the advantages you can get by using electric heat? Let CHROMALOX engineers help you.

Get the Booklet . . .

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

▼ BRIEFLY—Ideas in IEN-4142 if you write the maker ▼

THEY'RE ALL INTERCHANGEABLE

Whatever your require on interchangeable punches and dies—standard, special, oval, any special shapes, or high speed steel . . . R-B can supply them when you need them.

Get The Whole Story In This Free Catalog

RICHARD BROTHERS

ALLIED PRODUCTS CORPORATION
Department 43 • 10615 Burt Road • Detroit 23, Mich.

▼ BRIEFLY—Ideas in IEN-4143 if you write the maker ▼

Up Output ..ON FOUR DIFFERENT JOBS

1. HARDENING

An outstanding machine tool builder used induction heating of a rocker arm shaft on Rockwell 500 air hoists at the end of the shaft just straight.

2. SOLDERING

A pressure gage manufacturer found brazed product assembly gas-air light and efficient efficiency furnace.

3. BRAZING

A refrigerator manufacturer in Toledo used furnace to fast braze one minute.

4. ANNEALING

An automotive supplier turns annealed 2400 bolts every hour.

All 10 basic induction heating applications are fully described in this booklet. Write for your copy today. Ask for Booklet 6B6810. Allis-Chalmers, Industrial Heating Div., 1126 S. 70th St., West Allis, Milwaukee, Wis.

ALLIS-CHALMERS, 900A SO. 70 ST. MILWAUKEE, WIS.

ALLIS-CHALMERS AC

▼ BRIEFLY—Above is IEN-4144 if you write this maker ▼

ENGINEERED CONVEYORS

for MAXIMUM OPERATING EFFICIENCY

MANUFACTURERS OF PORTABLE CONVEYORS POWER FEEDERS CONVEYOR SYSTEMS

Ask Metzgar to suggest a "Most for your Money" conveyor system to meet your requirements.

Reduced handling costs will straighten your position in a market that is growing more and more competitive.

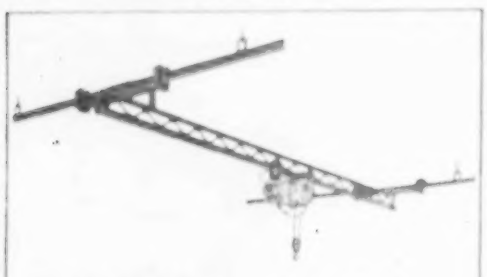
WRITE FOR DESCRIPTIVE FOLDER

METZGAR CO.

417 Douglas N. W.

GRAND RAPIDS 4, MICH.

▼ BRIEFLY—Above is IEN-4145 if you write this maker ▼



Light Duty Low Cost

MONORAIL CRANE

For loads up to 1500 lbs. and a maximum span of 16 feet, this crane, with American MonoRail track for runways, makes an extremely low-cost material handling system covering maximum floor area.

An American MonoRail Engineer will gladly give complete details without obligation. Write for Bulletin ME-1 describing MonoRail Crane developments.

THE AMERICAN MONORAIL COMPANY

13111 Athens Avenue • Cleveland 7, Ohio

▼ BRIEFLY—Above is IEN-4146 if you write this maker ▼

NEW For STAINLESS TUBE USERS

QUICK FACTS Bulletins

giving you information on

- Corrosion Resistance
- Fabrication
- Physical Constants

THE CARPENTER STEEL COMPANY

▼ BRIEFLY—Above is IEN-4147 if you write this maker ▼

TUBE . . Flexible extruded plastic
1/4 to 1 in., for foods and chemicals

Source: CARTER PRODUCTS CORP.
10229-233 Meech Ave., Cleveland 5, Ohio

▼ BRIEFLY—Above is IEN-4148 if you write this maker ▼

STEEL . . Hot hard tool steel
for extruding, forging, dies, punches

Source: ALLEGHENY LUDLUM STEEL CORP.
2019-22 Oliver Bldg., Pittsburgh 22, Pa.

Blue Sheet Number B-47 contains details

▼ BRIEFLY—Above is IEN-4149 if you write this maker ▼

PROTECTING . . Rubber fabric glove
makes firm grip on smooth slippery work

Source: EDMONT MFG. CO.
516-20 Orange St., Cushocton, Ohio.

Gauntlet design

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 66

▼ BRIEFLY—Above is IEN-4150 if you write this maker ▼

TRUSCON STEEL COMPANY

YOUNGSTOWN 1, OHIO • Subsidiary of Republic Steel Corporation

▼ BRIEFLY—Above is IEN-4151 if you write this maker ▼

WICKWIRE SPENCER SPRINGS

PRODUCT OF WICKWIRE SPENCER STEEL DIVISION THE COLORADO FUEL & IRON CORPORATION

▼ BRIEFLY—Above is IEN-4152 if you write this maker ▼

How SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!

BUSHINGS MADE IN FOLLOWING SIZES:

Write for Literature

STURDY BROACHING SERVICE

23530 TELEGRAPH ROAD, DETROIT 19, MICH.

▼ BRIEFLY—Above is IEN-4153 if you write this maker ▼

NEW! STAINLESS STEEL BODY

makes a good steam trap better . . . at no increase in cost to you. Means reduced maintenance for the trap that gets equipment hotter, sooner and keeps it hot! Over 600,000 Yarways already installed! Sold by distributors throughout the world.

YARNALL-WARING CO. 122 Mermaid Ave., Phila. 18, Pa.

▼ IEN-4154 ▼

A MEMO TO ENGINEERS ...about Cotta GEARS

"WEAR RESISTANCE" due to "CONTROLLED" heat treating in our own shop, assures specified surface hardness to resist wear under modern high-speed heavy-load conditions. Quality materials ONLY, with strength and toughness reduces breakage from shock.

MACHINED TO MICRO-FINISH By skilled craftsmen . . . Men who know gear cutting!

OVER 40 YEARS GEAR CUTTING EXPERIENCE

SPECIAL MACHINING TOO! Complete facilities. Modern shops, experienced machinists to do unusual work. Write for information.

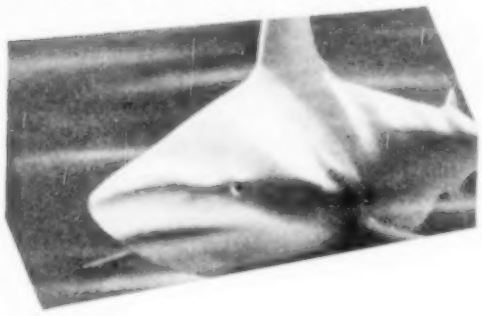
SEND PRINTS for low cost quotations on the "Wear Resistant" gears!

AUTO ENGINE WORKS
341-A NORTH HAMLINE AVE. • ST. PAUL 4, MINN.

▼ IEN-4155 ▼

TRAPPED IN A GIANT FISH BOWL

Submarine Portholes in the "Deep Sea" Tanks at Florida's Marine Studios kept watertight with U. S. Rubber Gaskets



A Product of U.S.RUBBER SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY
Mechanical Goods Division • Rockefeller Center, New York 20, N. Y.

▼ IEN-4156 ▼

22-YEAR RUN IN PRINTING PLANT ...and Still Going Strong!

PABCO MASTIPAVE

AMERICA'S No. 1 LOW-COST LONG-LIFE FLOOR COVERING

The Mastipave laid in our San Francisco Plant in 1929 is still in excellent condition after twenty-two years of service, says Frank T. Sheedy, Production Manager, Sinclair Refining Company, nationally known printing firm. "It has successfully withstood light trucking on the aisles, and chemicals and acids in the plant rooms. We do not know of any other material we could have used that would have withstood such use and still be in its excellent condition."

EVERY BUILDING NEEDS PABCO MASTIPAVE

For 35 years, the Nation's blue chip industries, public services, hospitals, public school systems have demonstrated that Pabco Mastipave—both regular and non-slip Grip-Tread types—costs little, looks good, wears even better! Grip-Tread Mastipave is sold in roll goods only; regular Mastipave in roll goods and tiles.

SEND NOW FOR THE FULL STORY OF MASTIPAVE!

PABCO

THE PARAFFINE COMPANIES, INC.
San Francisco 19 • Chicago 54 • New York 16
Mail to Dept. E, nearest office.

GENTLEMEN: Without cost or obligation to me, please send folder, "Every Building Needs Pabco Mastipave."

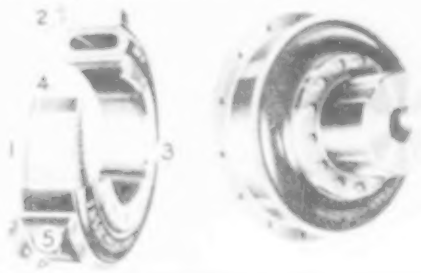
NAME CITY

ADDRESS STATE

▼ IEN-4157 ▼

DRIVE . . Flexible coupling employs a liquid filled rubber gland

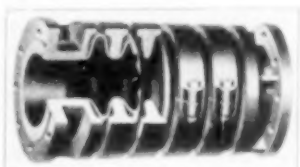
Source: FALK CORP.
3004 W. Canal St., Milwaukee 1, Wis.



▼ IEN-4158 ▼

PIPE FITTING . . Expansion joint provides axial, offset, radial action

Source: CHICAGO METAL HOSE CORP.
1306 S. 3rd St., Maywood, Ill.



Axial movement

All Makers of Parts And All Other Products Are Listed In THOMAS REGISTER — Do not confuse — Ratings — See Page 50

▼ IEN-4159 ▼

Write for your copy, TODAY!

Logan Conveyors

LOGAN CO., 200 CABEL ST. • LOUISVILLE 6, KY.

▼ IEN-4160 ▼

When detecting temperature by radiation method . . .

LEEDS & NORTHRUP CO.

▼ IEN-4161 ▼

NOW!

it's easier to take Roller Chain apart

BALDWIN-REX ROLLER CHAINS
a complete line from ¼ inch to 2½ inch pitch

Baldwin Duckworth Division, Chain Belt Company
556 Plainfield Street, Springfield 2, Mass.

Please send me a copy of Bulletin 3622.

Name

Company Department

Street

City State

▼ IEN-4162 ▼

the IDEAL OPEN FLOOR for every industry

• *Electroforged* into one exceptionally strong piece • *non-slip twisted* bar for safe footing • maximum open area • self cleaning, with no corners to clog • easily installed • easily maintained • *adaptable* to many uses, indoors and out, for every industry.

BLAW-KNOX Electroforged STEEL GRATING

Open Flooring • Sidewalk Doors • Bridge Surfacing • Catwalks • Sidewalks • Subway Grating • Treads
Many other uses

Send for BULLETIN 2296 TODAY!

BLAW-KNOX DIVISION of Blaw-Knox Company
2076 Farmers Bank Bldg., Pittsburgh 22, Pa.
Offices in Principal Cities

BLAW-KNOX ELECTROFORGED STEEL GRATING

▼ REFER—Identify by IEN-4163 if you write the maker ▼

Notice How THOMAS "Job-Suits" This Platform Truck

THOMAS
"JOB-SUITED" TRUCK

THOMAS TRUCK AND CASTER CO.
330 MISSISSIPPI RIVER KEOKUK, IOWA

▼ REFER—Identify by IEN-4164 if you write the maker ▼

For Quick, Efficient On-Location Clamping Use Knu-Vise Portable Vises

Ask for complete catalog

KNU-VISE PRODUCTS LAPEER MFG. CO.
2056 DAVISON ROAD • LAPEER, MICHIGAN
Western Division, 421 Magnolia St., Glendale, California

▼ REFER—Identify by IEN-4165 if you write the maker ▼

HOOKS, TONGS GRIPS and SLINGS

A COMPLETE LINE OF HOIST GRABS—for fast safe handling of pipe, rails, drums, plate and structural steel, stone, concrete boxes and odd-shaped objects. Carefully engineered Downs Hoist Grabs have a safety factor much greater than capacity ratings listed. Many types of hooks, tongs, grips and slings available for quick delivery.

WRITE FOR FREE ILLUSTRATED CATALOG 200

DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS
340 W. VERNON AVENUE
LOS ANGELES 37, CALIF.

▼ REFER—Identify by IEN-4166 if you write the maker ▼

TESTING . . Viscosity meter reads direct in centipoise units

Source: FISHER SCIENTIFIC CO.
715-19 Forbes St., Pittsburgh 19, Pa.

Motor-driven cup rotates in sample oil liquid and requires it to wind out torsion wire bob, in position to self-aligning device which turns the calibrated head. Measuring lever at the right rotates to take the reading, indicated by pointer. Two bobbins, interchangeable, in the range are supplied for ranges from 0 to 500 and from 500 to 4,000 centipoises. Operation is by Electric motor, and by hand. Rating is at motor speed of 1 rpm. Accuracy is within 1% of full scale. Interchangeable with previous lamps

▼ REFER—Identify by IEN-4167 if you write the maker ▼

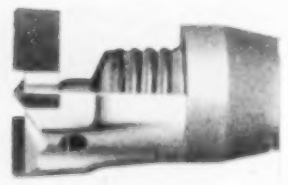
LIGHTING . . Fluorescent lamp is filled with krypton and argon gases

Source: WESTINGHOUSE ELECTRIC CORP.
2-4 McArthur Ave., Bloomfield, N. J.

▼ REFER—Identify by IEN-4168 if you write the maker ▼

ROCK DRILLING . . Attachment shank for carbide tipped bits, $1\frac{3}{8}$ to 3 in.

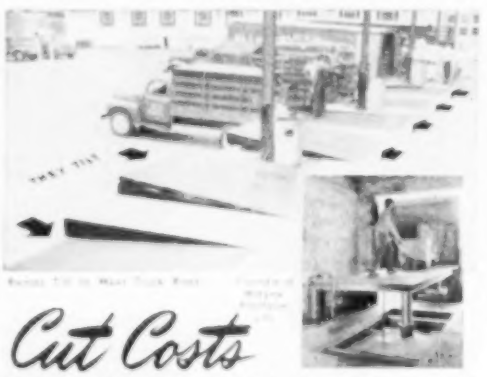
Source: INGERSOLL-RAND CO.
146 Morris Ave., Phillipsburg, N. J.



New attachment shank has the usual percussion drifter design to accommodate the wear which is prevalent on the outer corners. Thus the wear has been made to occur where it can be taken up by regrinding the bit. Shank is provided with a taper pin which prevents the bit from turning in the chuck. Shank is made of high carbon steel, heat treated, to prevent stripping and excess thread wear. The design may provide increasing bit sizes as the drifter wears. Bits from $1\frac{3}{8}$ to 3 in. are available.

All Makers of These And All Other Products Are Listed in THOMAS REGISTER Descriptions Ratings See Page 30

▼ REFER—Identify by IEN-4169 if you write the maker ▼



Cut Costs WITH WAYNE LOADING DOCK LIFTS

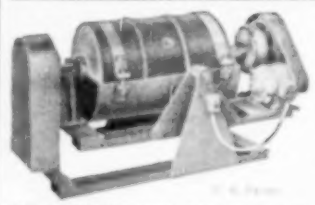
YOU CAN save time and money with Wayne Hydraulic Leveling Ramps to adjust the level of the loading dock to the truck height. Material on skids can be directly transported into the truck body over a level path. A variance of as much as 20 inches in the height of truck bodies may be instantly adjusted by merely turning a valve. Users say: "Cuts Loading time in half . . . As good as doubling dock facilities." Send for illustrated folder now.

THE WAYNE PUMP COMPANY
333 Fairmount Street, Fort Wayne 4, Indiana

NATIONWIDE SERVICE

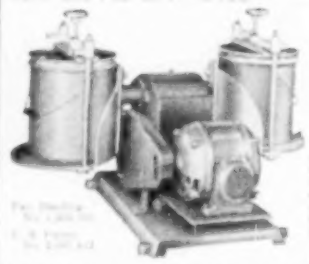
▼ REFER—Identify by IEN-4170 if you write the maker ▼

ARLINGTON BARREL and DRUM TUMBLER



For mixing and liquefying up to 55 gallons

Fabricated steel tumbling drum from end to end while it is making complete revolutions on its axis mixing and blending wet or dry materials uniformly and thoroughly



Arlington Giant Paint Restorer

ARLINGTON, INC.

▼ REFER—Identify by IEN-4171 if you write the maker ▼

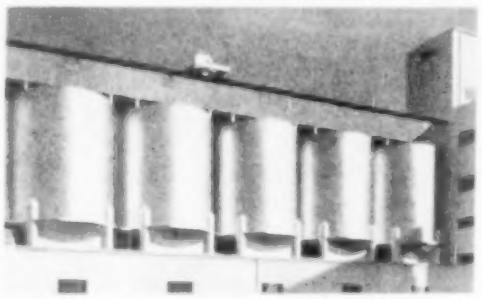
Join Sheet Steel

WITH THE "HELIARC" SPOT WELDING TORCH

Needs no forging pressure
Works from one side only
Welds Stainless, Low Alloy, and Carbon Steel Sheet

THE LINDE AIR PRODUCTS COMPANY

▼ REFER—Identify by IEN-4172 if you write the maker ▼



Tanks for Material Handling

The Horton* welded steel tanks shown above store ether and limestone, soda ash (barrages, outlet Brookes glass) and other raw materials for Glass Containers, Inc. at Antioch, California. They are typical examples of the specialized storage tanks we build for process plants engaged in handling solid materials and liquids. Write one nearest office for quotations stating number of tanks required, capacity, location, and any special dimensions or design features required.

*Trade name for tanks built by

CHICAGO BRIDGE & IRON COMPANY
2123 McCormick Building • Chicago 4, Illinois
Atlanta • Birmingham • Boston • Cleveland • Detroit • Houston
Los Angeles • New York • Philadelphia • Salt Lake City
San Francisco • Seattle • Tulsa
Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA.

▼ REFER to IEN-4173 ▼

Fastening sheet metal to wood . . . to masonry?

For the better way . . . rely on P-K

Hardened SCREWNAILS

Screw strength and nail speed in one fastening—makes sense, doesn't it? Yes, and it saves time and materials, too. Parker-Kalon Screwnails are hardened . . . point metal that would bend ordinary nails. And they have over four times the holding power—that means fewer screwnails are needed to do the job.

Hardened MASONRY NAILS

You simply drive them with a hammer—no drilled hole of the proper size. Saves work, time and money. Parker-Kalon Hardened Masonry Nails can be applied more quickly than lead anchors and expansion bolts. Need concrete and cost less to anchor wood pieces. These unique, specialty fasteners are not for drives without holes.

SEND FOR BOOKLET
Parker-Kalon Corp.
200 Varick St.
New York 14, N.Y.

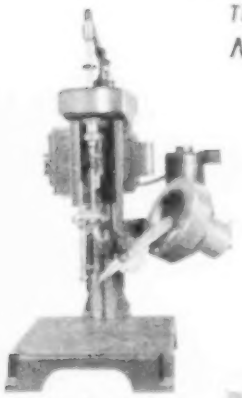
PARKER-KALON
FASTENING DEVICES
MAKERS OF THE ORIGINAL SELF-TAPPING SCREWS

▼ REFER to IEN-4174 ▼

A "MUST" in PRODUCTION SCREWDRIVING!

STEPS UP SPEED—CUTS ASSEMBLY COSTS

THE MODERN Machine Method



Model A—Bench Type

Model B—Pedestal Type

DETROIT POWER SCREWDRIVER CO.
2413 WEST FORT ST. DETROIT 16, MICH.

▼ REFER to IEN-4176 ▼

RECORDING . . Operations register prints record of machine performance

Source: NATIONAL ACME CO.
170 E. 131st St., Cleveland 8, Ohio.

Introduced in 1935, redesigned in 1947 and 1948, the company's Chronomatic operations recorder is now available in a new Model C-3 assembly for application to production equipment previously of types without an operation record. It is a mechanical-pneumatic device in previous designs. It provides a printed record of production and machine performance, and is shown above, from time to time. The recorder is available in a number of types.

Bulletin LM-50-1, a 4-page, illustrated folder describing the recorder, may be obtained from the company.

▼ REFER to IEN-4177 ▼

TESTING . . Strain indicator for actuation by SR-4 strain gages

Source: BALDWIN LOCOMOTIVE WORKS
Paschall Post Office, Philadelphia 42, Pa.

Type L

Improvements

All Makers of These And All Other Products Are Listed In THOMAS REGISTER Descriptions Ratings See Page 50

▼ REFER to IEN-4178 ▼

SET SCREWS

Profit by Set Screw Specialization on Puzzling Set Screw Problems

Over 1200 Manufacturers, large and small, depend on Setco for Set Screws. Do you have set screw problems like these: Tough Service, "Tricky" Applications, Small Sizes, Special Materials, Hard Shipments? Then Setco can help you. Write, wire or phone today for catalog of stock Setco specifications.

ANOTHER EXAMPLE OF HOW SETCO SOLVES PUZZLING SET SCREW PROBLEMS

ZIP-GRIP

SET SCREWS and ADJUSTING SCREWS

Set Screw & Mfg. Co.

▼ REFER to IEN-4179 ▼

Is this the solution to your lubrication problems, too?

Write for these FREE bulletins

FARVAL
CENTRALIZED SYSTEMS OF LUBRICATION

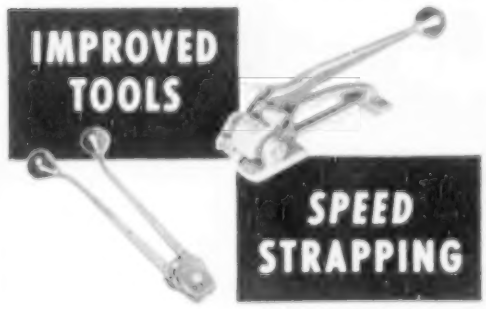
▼ REFER to IEN-4180 ▼

A new vertical speed reducer to drive agitators and mixers

CLEVELAND Worm Gear Speed Reducers

▼ REFER to IEN-4181 ▼

IMPROVED TOOLS SPEED STRAPPING



Typical examples of Signode's continuing leadership in steel strapping are these two new improved box strapping tools.

The Signode Sealer, left, is exceptionally lightweight and easy to handle. Designed for 5/16" to 3/4" strapping. Ideal for general shipping.

The Signode ST Stretcher, right, has perfect balance for minimum operator fatigue. Its fast take-up is just right for high tension applications. Send for 3/4" to 1 1/4" strapping.

FOR FULL DETAILS — MAIL COUPON

Signode Steel Strapping Co.
2603 N. Western Ave., Chicago 47, Ill.
Please send complete information on your box strapping Sealer and ST Stretcher. Also send Signode's 8-Point System of Shipping Protection.

Name _____ Title _____
Company _____
Address _____
City _____ State _____

THIS SEAL MEANS SECURITY IN SHIPPING

▼ BRIEFITS—Items by IEN-4182 if you write the maker ▼

- Full Line Capacity
- Positive Seal
- High Speed Operation
- Low First Cost
- Low Operating Cost
- Low Maintenance Cost
- Over 500 Straightway and 3-Way Models in ¼"—1¼" Sizes

Ask Ross for Any
Air Control Information

Ross makes valves only—hundreds of types and sizes. Take advantage of our quarter century of experience and concentration on control and application of air power!

ROSS OPERATING VALVE CO.
120 E. GOLDEN GATE AVE., DETROIT 3, MICHIGAN

▼ BRIEFITS—Items by IEN-4183 if you write the maker ▼

Wagner STEEL-FRAME Motors

Proved by years of service!

The Choice of leaders in Industry

Wagner cast-frame, drip-proof polyphase motors have been proved—durable, dependable, and trouble-free—by twenty years of hard usage in industry after industry.

These open type squirrel-cage motors are available through 5.00 frame size, with either sleeve or ball bearings. The motor frames are formed of heavy rolled steel, shaped to accurately center the stator core and to provide passages for adequate ventilation. Because there are no openings in the frame, these motors are completely drip-proof when mounted in the normal horizontal position, and by rotating the endplates we will drip-proof in the sidewall or ceiling horizontal positions.

Wagner Electric Corporation
6414 PLYMOUTH AVENUE
ST. LOUIS 14, MO.

Send for Bulletins

ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

▼ BRIEFITS—Items by IEN-4184 if you write the maker ▼

BIN-FLO

Provides
STEADY FLOW
of Bulk
Materials

New metering device provides uniform steady flow of dust dry, finely-ground materials from bins, hoppers, chutes, and silos.

BIN-FLO units are located at points of restricted flow. Low-pressure air supply may be controlled by BIN-DICATORS.

THE BIN-DICATOR COMPANY
13548 Kinsman Avenue Detroit 15, Michigan

▼ BRIEFITS—Items by IEN-4185 if you write the maker ▼

FLOORS . . Magnesium dockboard bridges platform gap to car or truck

Source: MAGNESIUM CO. OF AMERICA
5220-24 Indianapolis Blvd., East Chicago, Ind.

Safety curbs, quite necessary to section, prevent running over the sides of the runways, necessary on paved Magnesia magnesium dockboard platforms installed described IEN-230:48. At the same time the new construction prevents damage to truck tires. Hand holes have been provided at the ends of the curbs to assist in positioning the board. Sizes and load capacity are to specifications. Light weight permits one-man handling as shown in the illustration.

▼ BRIEFITS—Items by IEN-4186 if you write the maker ▼

CONVEYING . . Cotton duck belt neoprene impregnated, also for drives

Source: VICTOR BALATA & TEXTILE BELTING CO.
51-55 Park Place, New York 7, N. Y.

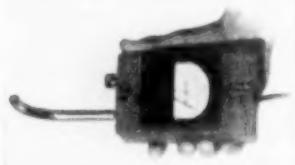
10-in. width
$1.20 to $4.60
per foot

Supreme is a new general purpose impregnated duck belt that is water proof, especially where subjected to oil splashing or spillage. It is designed to stretch the vegetable oil and fruit acids with grommet. It can be washed with boiling water, if desired. With a width of 10 in. can be made endless with a smooth skive joint or connected with standard fasteners. Temperature range is from below zero to 250 deg. F. Four styles are included in the line for various degree of covering and general duty use. Thickness ranges from ⅛ to ⅜ in. up to 25 plies. Ultimate breaking strength is 300 to 1,000 lbs. per inch of width. Weight is 30 to 244 lb. per linear inch approx. foot. Width ranges from 1 to 48 inches. List prices are $1.20 to $4.60 per ft. on the 10-in. width.

▼ BRIEFITS—Items by IEN-4187 if you write the maker ▼

METER . . Portable instrument reads air velocity, 5 to 6,000 fpm.

Source: HASTINGS INSTRUMENT CO.
P. O. Box 1275-A, Hampton, Va.



Model G Air Meter is new design of the company's electric anemometer that includes a built-in temperature compensator to prevent inaccuracies in reading when there is a sudden change in temperature. The meter indicates air velocity directly in feet per minute. Full scale reading is 6,000 fpm. Accuracy is said to be within 3% of reading. Meter is supplied with a battery case and spare parts.

All Makers of These and All Other Products Are Listed in THOMAS REGISTER 30th Edition Ratings — See Page 30

▼ BRIEFITS—Items by IEN-4188 if you write the maker ▼

NEW CATALOG featuring Heat Absorbing and Glare Reducing COOLITE Glass for Industrial Buildings

Tells you how to improve working conditions, step up production and decrease maintenance costs in your plant by reducing room temperatures and removing sources of eye-fatiguing glare. Contains specifications, light and heat transmission tables, etc.

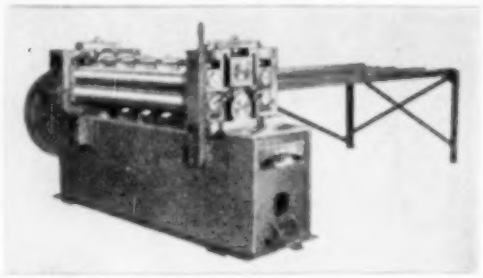
Send For Your FREE Copy Today!
No obligation, of course. Write

MISSISSIPPI Glass COMPANY
SAINT LOUIS 7, MO.
NEW YORK • CHICAGO • FULLERTON, CALIF.
World's Largest Manufacturers of Rolled, Figured and Wired Glass

▼ BRIEFITS—Items by IEN-4189 if you write the maker ▼

RAFTER GANG SLITTER

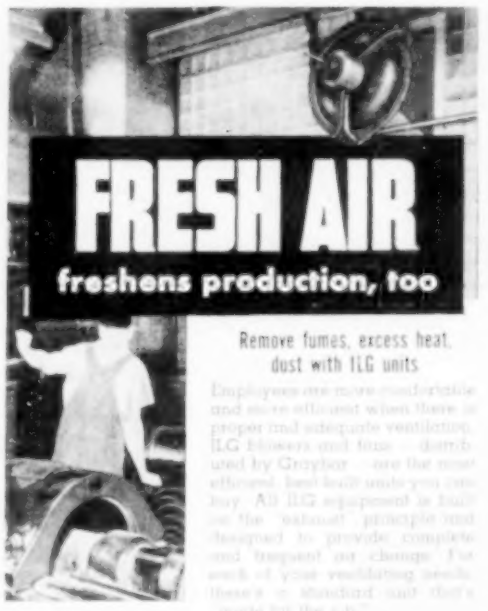
For Lasting Accuracy



With or without feed rolls for the slitting of varied widths and gauges of metal. Machined and accurately ground cutter shafts made of high-grade carbon steel. Machine cut gears. Generous size bearings. Vertical adjustment of upper spindles allows regrinding of double edge type cutters. By removing two bolts, the end housing is drawn from cutter shafts permitting quick change of cutters. Spacer collars machined and marked for particular job, easily and simply removed for change over of various slitting widths. All features represent accuracy, speed and economy.

RAFTER MACHINE COMPANY, INC.
SINCE 1917
249 Stephens Street Belleville 9, N. J.
COLD ROLL FORMING MACHINES
& PRESS BRAKE FORMING DIES

▼ BRIEFITS—Items by IEN-4190 if you write the maker ▼



Remove fumes, excess heat, dust with ILG units

Employees are more comfortable and more efficient when there is proper and adequate ventilation. ILG blowers and fans — distributed by Graybar — are the most efficient and best made you can buy. All ILG equipment is built on the "exhaust" principle and designed to provide complete and frequent air changes. For each of your ventilating needs, there's a standard unit that's made for the job.

Free ventilation-planning bulletin!

This is a new 32-page booklet that's crammed with valuable information and diagrams. The booklet — How to Plan Your Ventilation System — explains how to figure an exhaust requirement for your building, how to select the correct size fan, how proper ventilation can increase employee productivity, and hundreds of other facts that are important to you and your company. Be sure to get your copy. It's ready now.

Convenient source for everything electrical

Graybar distributes more than 100,000 electrical items by wire and cable, communications system and all your other electrical needs. Graybar Specialists are on call to help solve electrical problems. Graybar Electric Company, Inc. Executive Offices: Graybar Building, New York 17, N. Y.

You get the best of everything electrical Via Graybar
IN OVER 100 PRINCIPAL CITIES

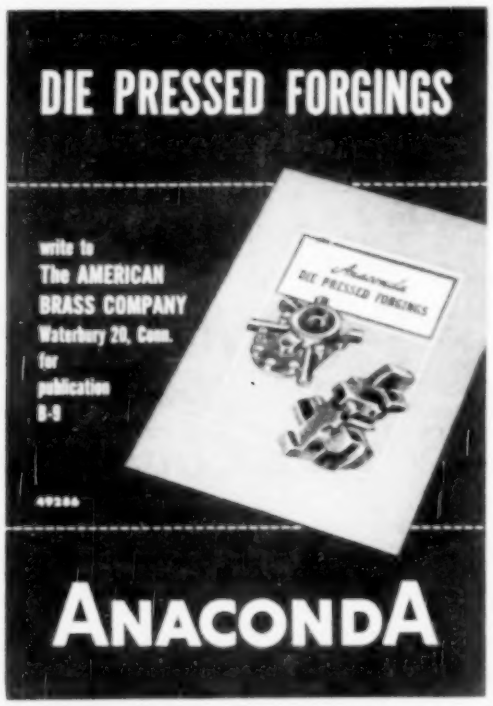
Send coupon for FREE Booklet

GRAYBAR ELECTRIC CO., INC., Graybar Building, New York 17, N. Y.

Please send me my copy of the 32-page booklet, How to Plan Your Ventilation System.

Name Title
Company
Address
City Zone State

▼ Circle IEN-4192 on coupon for more data ▼



▼ Circle IEN-4193 on coupon for more data ▼

HERE'S A QUICK, LOW-COST SOLUTION

CHROMALOX *Electric* **HEAT**

Economical Chromalox Electric Heaters can be installed anywhere to provide efficient "on the spot" heat at accurately maintained temperatures, in all types of applications. They may be used to heat gases and liquids, to heat dies, molds and platens, to melt soft metals, and for hundreds of other uses. 15,000 types, sizes and ratings are available for almost any need. Nationwide engineering assistance is yours without obligation.

Get Your Copy of CHROMALOX CATALOG 50

It shows many of the standard 15,000 types, sizes, ratings of Chromalox Electric Heaters. Write today.

EDWIN L. WIEGAND CO., 7781 THOMAS BLVD., PITTSBURGH 8, PA.
See Chromalox Industrial Heater Advertisement, Page 1

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

▼ Circle IEN-4194 on coupon for more data ▼

If you use process steam you'll want this valuable book—

COCHRANE CORPORATION
2157 N. 17th St., Philadelphia 32, Pa.
In Canada: Canadian Ingersoll-Rand Co., Ltd., Toronto
Please send me a copy of your Publication No. 1950 of Cochrane S.C. System of Condensate Return.
Name
Firm
Address
City Zone State

▼ Circle IEN-4195 on coupon for more data ▼

SWITCH . . Liquid flow operated to actuate circuit on flow rate change

Source: GENERAL ELECTRIC CO., Dept. 6X-201, Schenectady 5, N. Y.

Flow Interlock

Application

▼ Circle IEN-4196 on coupon for more data ▼

CLEANING . . Blast abrasive, non-metallic for use in place of sand

Source: AMERICAN WHEELABRATOR & EQUIPMENT CORP., 533-7 S. Byrkit St., Mishawaka, Ind.

Sizes graded for specified work

Blast Boards

▼ Circle IEN-4197 on coupon for more data ▼

SPREADING . . Gumming machine spreads glue on label and delivers it

Source: POTDEVIN MACHINE CO., 1285 38th St., Brooklyn 18, N. Y.

Light touch

All Makers of Items Used, All Other Products Are Listed in THOMAS REGISTER — Everywhere — Buildings — See Page 10

▼ Circle IEN-4199 on coupon for more data ▼

The Model FA

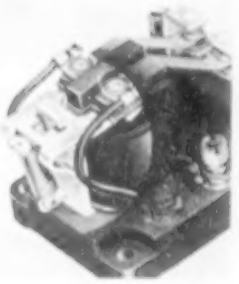
America's choice for better packages

Write for our FA folder

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS
NEW YORK · CHICAGO · BOSTON · CLEVELAND · ATLANTA · DALLAS
DENVER · LOS ANGELES · SAN FRANCISCO · SEATTLE · TORONTO · MEXICO D.F.

▼ Circle IEN-4200 on coupon for more data ▼

NEW Midget Relay



Long life even under vibration

The exceptionally good vibration characteristics of Ward Leonard's Bulletin 110 Midget Relays are due to:

- proper proportioning of contact masses and springing
- heavy pressures on both normally open and normally closed contacts
- semi-knife edge bearing which reduces frictional wear.

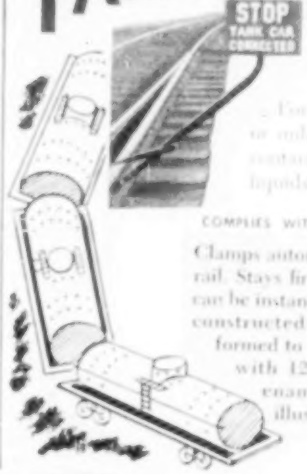
Higher contact ratings than most midgets. Available up to 5-pole, double-throw. Write for Bulletin 110. WARD LEONARD ELECTRIC CO., 33 South Street, Mount Vernon, N. Y. Offices in principal cities of U. S. and Canada.

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls
RESISTORS · RHEOSTATS · RELAYS · CONTROL DEVICES

▼ Circle IEN-4198 on coupon for more data ▼

SAFETY EQUIPMENT FOR ALL INDUSTRIES

TANK CAR *Sign*



. . . For use where loading or unloading Tank Cars containing inflammable liquids.

COMPLIES WITH A.P.I. REGULATIONS

Clamps automatically to any size rail. Stays firmly in position and can be instantly released. Rigidly constructed of iron channel, formed to shape and provided with 12" x 15" porcelain enamel sign plate as illustrated.

Write for Bulletin F-50

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2801 N. FOURTH STREET · PHILADELPHIA 33, PA.

▼ Circle IEN-4201 on coupon for more data ▼

STOP DUSTS

. . . with low cost, unit-type DUSTKOPS They're Ductless . . . quickly installed

250 cfm to 3600 cfm

¼ hp. to 5 hp.

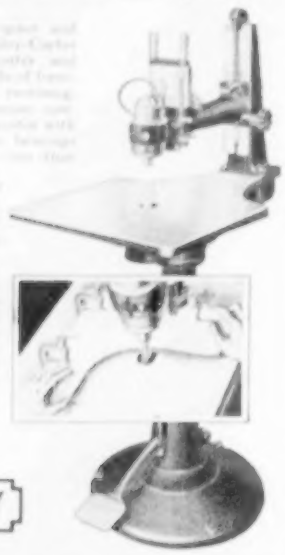
Immediate shipment from stock means immediate stopping of dusts, lint, dirt, shavings, etc.

For the least costly dust collecting method describe your problem. No obligation.

AGET-DETROIT COMPANY
Ann Arbor, Michigan

▼ BRIEFITS—Identify by IEN-4202 if you write the maker ▼

How to get a big return on 6 sq. ft. of floor space



STANLEY

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

▼ BRIEFITS—Identify by IEN-4203 if you write the maker ▼

Change Down-Time Caused By Leaky Pipe Connections Into Productive Hours With KEY Graphite Paste

- Costly steam leaks and down-time for repairs are eliminated when pipe joints are sealed with KEY Graphite Paste—the sealing compound especially developed for high pressure steam and oil proof service.
- KEY Graphite Paste is economical to use—requires only water for thinning. It expands when heated and packs on under pressure to provide an absolutely permanent seal—but joints can be easily disconnected without damage to thread or gaskets. Listed by Underwriters' Laboratories.

FREE LEAFLET—Send for "Quick Facts about KEY Graphite Paste" and the name of your nearest supply house.

KEY COMPANY
1451 McCausland Ave., E. St. Louis, Ill.

KEY Company

▼ BRIEFITS—Identify by IEN-4205 if you write the maker ▼

SIGNALING . . Television equipment reproduces observed remote conditions

Source: RADIO CORPORATION OF AMERICA
1941 Front and Cooper Sts., Camden, N. J.

A 2-tube camera employing the new Vidicon pickup tube, a length of coaxial cable and a control monitor with a 7-in. viewing screen make up the company's new industrial television equipment. The two units can be located at any distance apart to 250 ft. for direct connection through the cable. Greater distances are practical when servo monitors or booster amplifiers are included. Operation is on 110-volt 60-cycle ac, with power consumption at 325 watts. Control for both the monitor and the camera center at the monitor panel.

The camera measures 10 by 5 by 5 in. and has a standard Type-C 16-mm. movie mount. Scene brightness is minimum at 2 foot-lamberts. The lenses are standard 16-mm. movie units. The camera can be mounted in fixed position, or applied on a tripod or carried by hand as a movie unit.

The monitor measures 20½ by 9½ by 17 in. and weighs 60 pounds. It provides brightness, contrast and blanking controls for its own operation in addition to the camera controls. It provides connections for additional receivers. There can be the company's standard TV units with the addition of one wire. Scanning frequency is 525 lines with 60 frames interlaced. The equipment requires primary source transients only at the cable circuit between the camera and the monitor.

Typical applications in an almost unlimited range of possibilities include observation of precarious working ranges or inaccessible areas by remote control of a mobile unit or an object; viewing for remote control of a process that is or is not in motion; measurements of a process that is in motion or another; measurements of a process that is inaccessible to watch on the regular TV or movie camera; observation of a control panel or instrument; remote viewing of dangerous processes; remote weather observations.

▼ BRIEFITS—Identify by IEN-4206 if you write the maker ▼

GAGE . . For foundry chaplets reads correct chaplet height in mold

Source: HARRY W. DIETERT CO.
9328-32 Roselawn Ave., Detroit 4, Mich.

Height range up to 6 in. for the standard gage. Other ranges can be supplied on special order. Gage is made of aluminum and steel. Base is ground flat and parallel to the bottom of the gage. Gage is set on the pattern or core box and the chaplet is placed in the gage. The gage is then removed and the chaplet is left in the mold. Gage is supplied with a chart showing the correct chaplet height for various thicknesses of sand.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 56

▼ BRIEFITS—Identify by IEN-4208 if you write the maker ▼

Are You Exposing Costly Machines To Serious Damage?

protect your investment by equipping with dependable

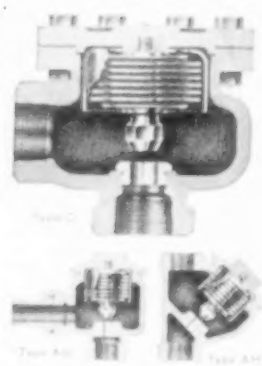
WALDRON
the advanced gear type
Coupling

Its exclusive construction and operating advantages recommend this modern design coupling as the best protection for your costly investment in expensive connected machines. Our Catalog 17 explains its safety factors. Copies on request.

MANUFACTURED BY
JOHN WALDRON CORPORATION
New Brunswick, New Jersey
Sales Representatives in Principal Cities.

▼ BRIEFITS—Identify by IEN-4209 if you write the maker ▼

Nicholson Steam Traps Feature
MAXIMUM AIR VENTING
for Faster Steam Transfer



Substantial evidence of the superior effectiveness of Nicholson steam traps is their wide recommendation for eliminating condensation pools as well as condensate on unit equipment as ... accepted heating ... Other Nicholson features ... heavy ... especially ... lowest temperature differential ... to 5 ... base pressure capacity ...

5 Types for Every Plant Application

Process, heat, power ... Sizes ½" to 2" ... pressures to 225 lbs.

BULLETIN 450 ... or see Sweet's

W. H. NICHOLSON & CO.

▼ BRIEFITS—Identify by IEN-4204 if you write the maker ▼

Send Coupon Today for Your FREE Copy

"WHY IT PAYS TO ANCHOR YOUR MACHINES WITH *UNISORB*"

Here's the book that tells you how to

- Avoid destructive floor-drilling with UNISORB machine anchoring ... the modern way that needs no bolts, no lag screws.
- Eliminate 60%, 85% transmitted machine noise and vibration.
- Achieve a safe, dependable machine mounting that lasts for years and years with no maintenance.
- Save time, expense and confusion when installing new machines or repositioning present machines.

The FELTERS Co.
210 SUMMER ST.
BOSTON 11, MASS.

NAME
COMPANY TITLE
STREET
CITY & STATE

▼ BRIEFITS—Identify by IEN-4207 if you write the maker ▼

NEW Bulletin 646 Manual Transformer-Type Reduced Voltage Starter

A-B Quality

Bulletin 646 Reduced Voltage Starter

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

▼ BRIEFITS—Identify by IEN-4210 if you write the maker ▼

STOP PIPE LEAKS POSITIVELY

...with a MARMAN PATCHMASTER

IT'S QUICK

AMAZINGLY STRONG

PERMANENT

HIGHLY ECONOMICAL

4 SIZES FOR ALL PIPE FROM ... TO 4 INCHES

MARMAN PRODUCTS CO. INC.
940 W. FLORENCE AVE., INGLEWOOD, CALIF.

▼ BRIEFITT—Identify by IEN - 4211 ▼

In
AIR CYLINDERS

It's **MUSCLE** *you need!*

AIR CYLINDERS

Are *all* Muscle. No Useless Frills! JLE Air Cylinders invite cost comparison . . . tell us the size cylinder you're interested in or are using and we'll give you JLE's cost figure for comparison.

JLE Air Cylinders are made to any stroke in standard bore sizes from ½ to 10"—Top operating pressure 150 lbs. per sq. in. Single or double acting. Choice of four standard mountings and of end cushioning.

Distributor Territories Open . . . Best Often Going Fast
Write Us Your Qualifications NOW!

JAMES L. ENTWISTLE CO.
410 CHURCH STREET, PAWTUCKET, R. I.

▼ BRIEFITT—Identify by IEN - 4212 ▼

SECURITYFLEX

the tough portable cord

- *It won't kink.*
- *Flexes indefinitely.*
- *Insulation resists heat.*
- *Neoprene jacket licks oil, water, abrasion, ozone, weather.*

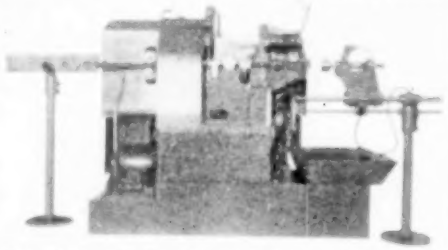
Give your tools the cord that's tough — give them Securityflex.* Anaconda Wire & Cable Company, 25 Broadway, New York 4, New York.
*Reg. U. S. Pat. Off. 80141

The right cable for the job

ANACONDA WIRE AND CABLE

▼ BRIEFITT—Identify by IEN - 4213 ▼

MODERN CUTTING-OFF MACHINE



Cuts off longer pieces than regular automatic machines—any length you want. FAST cutting and chamfering of tubing, pipe, shafting. Check the following figures:

½" Tubing — Cuts and Chamfers both outside edges of ½" (.035 wall) tubing, 8' lengths, every 2.5 sec. ends.

1¼" Cold Rolled — Cuts and Chamfers ends 20" long, at rate of 1 every 20 seconds.

1" Tubing — Cuts and Chamfers both outside edges pieces 5' long. One every 3 seconds.

Modern Automatic Cutting-Off Machines available in 2 sizes, handling work up to 3" O.D.

4" THREADED STUDS

Cut and chamfered at the rate of 3 seconds. (Also 12 ft. lengths of same automatic operation.) ½" to 3" diameters. Other sizes, shapes, diameter. Think what which this to mean in finishing machines.

WRITE for CATALOG

MODERN MACHINE TOOL CO.
JACKSON MICHIGAN

▼ BRIEFITT—Identify by IEN - 4214 ▼

LUBRICATING . . Pump and fittings for manual centralized oil distribution

Source: LINCOLN ENGINEERING CO.
5732 Natural Bridge Ave., St. Louis 20, Mo.

Operating the pump [illegible] to the bearing fittings.

Application of pressure [illegible] Refer to Bulletin 808.

▼ BRIEFITT—Identify by IEN - 4215 ▼

TRUCK . . Power lift pallet unit 12 or 18 volt operation, rates 2 ton

Source: MOTO-TRUCK CO.
1951-5 E. 59th St., Cleveland 3, Ohio

New design of the company's pallet truck features length overall is about 24" greater than the load so the unit can operate in confined locations. New design also includes a brake mounted on the drive wheel. To take hold when the steering handle is in down or riding position. The wheel mounting makes the safety action operative even though the drive chain from the motor may have broken.

The operator walks beside the truck and controls the forward and reverse movements and the lift and lower action, as does the motor-driven hydraulic lift accessories, at switches built into the handle. These are designed so they will return to neutral if he lets go for any reason. Travel speed loaded on a level floor is 3½ to 4 mph. The new brake is now standard equipment on all trucks in the company's line. The motor-driven or manual hydraulic lift can be specified.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

▼ BRIEFITT—Identify by IEN - 4216 ▼

SAVE UP TO 80%
IN FIXTURE RE-WORK COSTS

VLIER *Automatic* **TORQUE THUMB SCREWS**

VLIER torque thumb screws replace "home made" devices used to support work in jigs and fixtures. End pressures pre-set by factory makes it *impossible* to warp work pieces, jigs and fixtures by over-tightening. Finger-turning sharply cuts set-up time. Send for complete catalog.

FREE TRIAL!
Send for sample torque thumb screw today; specifying screw size and holding pressure desired. Return after 10 days if not satisfied.

VLIER MANUFACTURING CO.
4032 Beverly Boulevard, Los Angeles 4, California

▼ BRIEFITT—Identify by IEN - 4217 ▼

2-speed automatic TRANSMISSION

. . used to supplement constant-speed and multi-speed motors . .

. . . with the advantages of providing broader range of speeds and special ratios not obtainable electrically . . . In the five horsepower (illustrated) model, with a 1750 rpm input speed, the low limit of reduction is 6.31 to 1 but any pre-selected ratio, from direct motor speed to this low limit, is obtainable . . . WESTERN Two Speed Automatic Transmissions are built to handle 5, 10, 15, 20, 25 and up to 50 horsepower motors . . . *Send for complete information.*

up to 50 h. p. WESTERN TRANSMISSIONS
WESTERN MANUFACTURING CO. — FINE GEARING — RACINE, WISCONSIN

▼ BRIEFITT—Identify by IEN - 4218 ▼

You can improve finish and cut costs by brushing

THE Osborn Brushing Specialist near you has been helping hundreds of manufacturers find ways to improve product finish, speed production, reduce scrap loss, eliminate operations—with the right brushes, correctly used. He'd like to put this experience to work for you!

He will gladly go through your plant and make a study of your finishing, polishing and cleaning operations, and will analyze your problems with the aid of Osborn's extensive laboratory facilities. You will then receive the findings of this study without obligation.

This **O**sborn **B**rushing **A**nalysis will show you where new and improved brushes and brushing techniques can do specific jobs better . . . and it will *prove* why.

Or, if you're using brushes where some other method would be better, the **OBA** will report this and offer suggested improvements.

New developments in Osborn Brushes and improvements in the application of brushes to finishing, polishing and cleaning offer you opportunities for important savings! *Let us prove it with an* **OBA.** *Write: The Osborn Manufacturing Company, Dept. 286, 5401 Hamilton Ave., Cleveland 14, Ohio.*

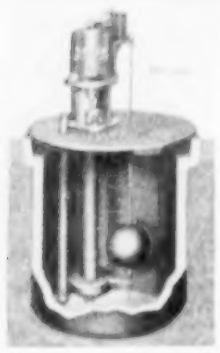
LOOK FOR THE NAME

OSBORN

RECOGNIZED EVERYWHERE FOR THOROUGH APPLICATION ENGINEERING

▼ BRIEFITS—Identify by IEN-4220 if you write the maker ▼

DRAINAGE WATER PROBLEMS SOLVED



For the very best type of insurance against costly damage often caused by unexpected seepage or drainage water . . . you can depend upon the ruggedly built Taber Sump Pump.

With an 18" pedra concrete to form the collecting basin a Taber Sump Pump is very definite protection, economical, efficient. Also built in capacities up to 750 g.p.m.

Write for Complete
BULLETIN S-135

Please use business letterhead when requesting Bulletin. Taber Pump Co., 268 Elm St., Buffalo 3, N. Y.

Est. 1859

TABER SUMP PUMP

▼ BRIEFITS—Identify by IEN-4221 if you write the maker ▼

Soldering Time Cut 30% with IDEAL Thermo-Grip

By using Thermo-Grip to solder wire connections in its fluorescent lamp ballasts, Radionic Transformer Company, Chicago, reports time savings of 30%. It is also getting better connections at lower unit cost.

NEW Low-Cost Model Now Available

ANY soldering job is faster and better with IDEAL Thermo-Grip . . . the improved soldering method used by thousands of manufacturers to solder wire terminals, lugs, tubing, etc. Resistance heating unit quickly provides instant, concentrated heat . . . assures complete adhesion of solder. Cheaper . . . no wasted material, time or current. Safer . . . no open flame or fumes. Size for every soldering or brazing job.

Distributed Through America's Leading Wholesalers

Standard 1000 Watt Model with Wire Tray, Rack and Pencil of Thermosets also available

FREE TEST

IDEAL INDUSTRIES, Inc.
1108 Park Avenue
Sycamore, Illinois

Please arrange FREE Thermo-Grip demonstration and send catalog data.

NAME .....
COMPANY .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....

▼ BRIEFITS—Identify by IEN-4222 if you write the maker ▼

REDUCE CONTROL COSTS TO A FRACTION

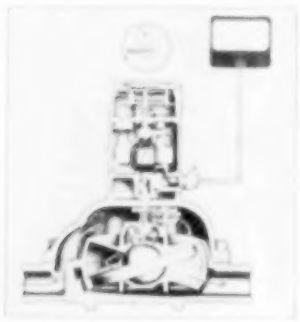
with the VICKERS *for Standard*
MAGNETIC AMPLIFIER

VICKERS ELECTRIC DIVISION

▼ BRIEFITS—Identify by IEN-4223 if you write the maker ▼

METER . . Measures liquid flow, indicates rate, totalizes, controls

Source: HAYS CORP.
740-4 E. 8th St., Michigan City, Ind.



New design of the company's Varitron meter extends the previous field of application to include corrosive liquids as well as tars, creosotes, crude oils, paint, varnish, syrups, acids. For each specified application the meter is calibrated for the customer's use. Pipe connections are typical for the company's entire line, as is service guaranteed for this purpose. The line includes twelve basic sizes for ½ to 6" pipe connection.

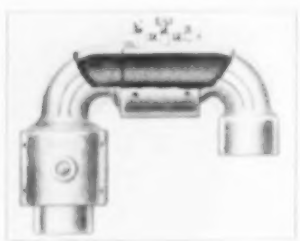
Previous design has not been altered in that the liquid flow passes through a chamber housing a "rotating" or "nutating" piston. Rotation of this piston drives a coupling connected vertical shaft terminating up to a totalizing register on top of the housing. The shaft also operates the lobe of a small generator that transmits electrically to a remote indicating meter that reads rate of flow.

Control of the meter assembly that regulates the meter for different service use such as for measuring and indicating. In this case the electrical output from the generator is employed in a recording circuit that can be calibrated for a desired flow rate. Designs in the circuit actuate forward and reverse movement of a motor-driven control valve in the flow line to set the rate at the predetermined level. Illustrated details of the operation are given in catalog. The control unit can be used in Bypass Detector set-ups.

▼ BRIEFITS—Identify by IEN-4224 if you write the maker ▼

PIPE FITTING . . Swivel joint ball bearing, sizes ⅜ to 14 inches

Source: RASMUSSEN MFG. CO.
12301 Industrial Ave., Hollydale, Calif.



Single, double and reducing-coupling assemblies are provided in this new fitting. It is made in ¾ to 8-in. sizes for high-pressure service to 15,000 lb. and 650 deg. F. It is recommended for the same sizes for pressures to 1,000 lb. and temperatures to 750 deg. F. in handling carbon dioxide, steam, liquefied petroleum gas and ammonia. Range is ¾ to 14 in. for pressures to 1,000 lb. and temperatures to 250 deg. F. non-corrosive.

The parts are made of steel and ride on each other on ball bearings with provision between the ball rings for grease injection. Swivel rings and packing provide the sealing action. Rotation is through 360 deg. at each joint. Pressure does not affect free turning of the new fitting.

All Makers of These And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 30

▼ BRIEFITS—Identify by IEN-4225 if you write the maker ▼

MERRILL LIFTING CLAMPS
THE HEAVIER THE LOAD THE TIGHTER THE GRIP!
Safer and Speedier Lifting at Less Cost...have made MERRILL-Volz LIFTING CLAMPS the choice of large Steel Mills everywhere.
SAFER
• Safety factor of 5 to 1.
• Factory tested at double rated capacity.
GREATER SPEED AT LESS COST
• Entirely Drop Forged and Heat Treated.
• Working parts entirely enclosed.
• Pins do not rotate in frame eliminating wear.
Available in Stainless Steel.
Sold by Better Distributors Everywhere.
MERRILL BROTHERS
Write for new CATALOG 10

▼ BRIEFITS—Identify by IEN-4226 if you write the maker ▼

CESCO's NEW COVERLITE

WEIGHS LESS THAN 1 OUNCE

LOW IN COST BUT HIGH IN EYE PROTECTION

the NEW COVERLITE goggle

★ Even this goggle weighs only 1/16 oz. of an ounce . . . manufactured to easily meet the nose and cheeks.

The sturdy protective moulded non-flammable frame provides full protection from impact, dust, flying particles and chips. Good ventilation and ample air space prevent fogging. Large frontal area gives good range of vision in all directions.

Easy to adjust elastic headband.

COVERLITE goggles are unique in important place in your safety program. They are ideal for buffing, polishing, light assembly work and spot welding. Choice of clear, light green and dark transparent frames.

For complete information about CESCO's newest safety goggles ask your CESCO distributor or write

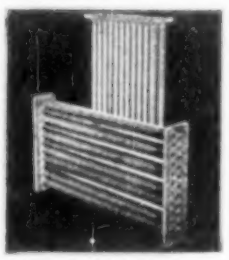
CHICAGO EYE SHIELD CO., 2376 Warren Blvd., Chicago 12, Ill.

CESCO FOR SAFETY

▼ BRIEFITS—Identify by IEN-4227 if you write the maker ▼

ROME HELICAL-FIN TUBING

Over 90 Sizes in Production



Rome extended surface Helical Fin Tubing is a highly efficient, compact medium for heat exchanging work. It is supplied in either straight lengths, coils, or U bends with or without threaded and connections. It may be used with standard flare fittings. It is used for:

- Water Cooled Refrigeration Condensers
- Air Cooled Refrigeration Condensers
- Steam Condensers
- Dry Cleaning Fluid Recovery Condensers
- Air Compressor Intercoolers and Aftercoolers
- Oil Coolers for Diesel Engines
- Fan Type Air Heating Coils
- Fan Type Air Cooling Coils
- Fan Type (suspended) Unit Heaters
- Refrigeration Evaporators and Brine Cooling Coils
- Turbine Air Surface Coolers
- Room Heating Convection (Concealed Radiation)
- Diesel and Truck Engine Cooling Radiators
- Railway Diesel Engine Cooling Systems

Rome Helical Fin Tubing is used and specified by nearly all large Nationally known manufacturers of heat exchanging equipment

ROME-TURNEY RADIATOR COMPANY

Mfrs. of Refrigeration Condensers — Concealed Copper Radiation, Blast Air Heating and Cooling Coils and Other Transfer Equipment

200 EAST FRONT STREET ROME, N. Y.

▼ BRIEFITS—Identify by IEN-4228 if you write the maker ▼

MORE SPEED MORE SUPPORT

CUT COST OF SAW BLADE REPLACEMENT

SPEED UP PRODUCTION

- Paddock Ball-Bearing Band Saw Guides

Interchangeable ball-bearing wheels running with blade give strong yet friction-free support.

PADDOCK TOOL CO.
1415 Walnut Street Kansas City 6, Mo.

Paddock
BALL-BEARING
BAND SAW GUIDES

▼ REFER TO IEN-4229 ▼

The Right Valve for the Right Place

LUNKENHEIMER "RENEWO" VALVE Threesome

"Renewo" Globe Valve
200 or 300 lb. S.P.

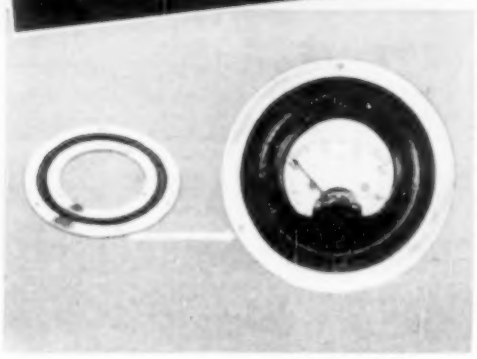
The LUNKENHEIMER "Renewo" with three quickly and easily interchangeable seats and discs, fills three service conditions perfectly! That's a real labor and money saver, change or renew a valve right in the line! save you, in reduced inventory

THE LUNKENHEIMER CO.
CINCINNATI 14, OHIO, U.S.A.

If you find Your Circular No. 227

▼ REFER TO IEN-4230 ▼

Another product designed with Du Pont NEOPRENE



Vibration-isolating meter mountings of resilient NEOPRENE withstand heat, sunlight and weathering

Numerous complaints besieged a manufacturer who used ordinary rubber vibration isolators for protection of meters on tractor dashboards. Tractor owners reported early failure of the mounting due to deterioration from sunlight and weather. Then vibration engineers switched to mountings made of Du Pont neoprene and complaints soon ceased.

This is a typical example of neoprene's success where other materials have failed. For neoprene resists most of the influences that attack ordinary rubber. It stands up when exposed to sunlight, heat, moisture and weathering. And it withstands the deteriorating effect of grease, oils, gasoline and most chemicals.

So when you need a resilient part, be sure to consider Du Pont neoprene first. It's your assurance of long, satisfactory service life. Du Pont does not make finished products of neoprene, but we'll gladly help you find a supplier. E. I. du Pont de Nemours & Co. (Inc.), Rubber Chemicals Division, Wilmington 98, Delaware.

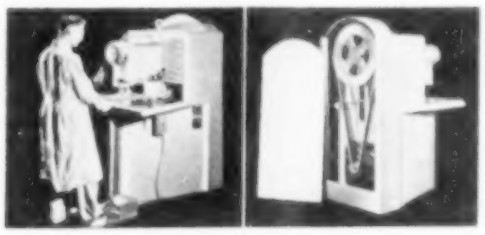
FREE! THE NEOPRENE NOTEBOOK

NEOPRENE
The rubber made by Du Pont since 1932
DU PONT
BETTER THINGS FOR BETTER LIVING ... THROUGH CHEMISTRY

▼ REFER TO IEN-4232 ▼

PUNCHING . . Motor driven machine also to notch, nibble, to 1/4 in. steel

Source: WALES-STRIPPIT CORP.
343-7 Payne Ave., North Tonawanda, N. Y.



Fabricator trade names were deleted in the interest of brevity. Source arranged by the latest and most complete information on products and services. A search through further particulars, some listings of products not listed here, may also be found in the appropriate classified section of your local telephone directory. Write to the manufacturer or distributor nearest you for complete information. Type PH [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. Type SA punching, shearing [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. Type PH [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. Type SA punching, shearing [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin.

The machine [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin.

▼ REFER TO IEN-4233 ▼

RESISTOR . . Wound ceramic core fixed or adjustable, tubular, flat

Source: HARDWICK, HINDLE INC.
30 Hermon St., Newark 5, N. J.

New line [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin.

Ratings [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin.

All Makers of These And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 56

▼ REFER TO IEN-4234 ▼

Stanzoils

Grip Oily Things As If Dry!

Liquid-Safe Hands Do Better Work...

Most rubber or neoprene gloves are slippery as wet soap — but not neoprene Stanzoils. Marvelous non-slip finger-to-cloth grips oily work as if dry, gives workers assurance and speed. Made of Du Pont neoprene, these gloves far outlast rubber, protect hands to harmful materials at extra low cost per day. Stanzoil hand safety pays you in more production, less costly injury claims. Also available in white neoprene. Write today for informative catalog.

Synthetic Rubber Division
The Pioneer Rubber Company
6200 Tiffin Road — Willard, Ohio, U. S. A.
Los Angeles

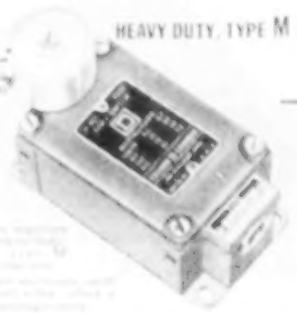
STANZOIL PIONEER

OVER 30 Years OF QUALITY GLOVE MAKING

▼ REFER TO IEN-4235 ▼

Precision LIMIT SWITCH

HEAVY DUTY, TYPE M



WRITE FOR BULLETIN

- [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin.
- [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin.
- [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin.
- [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin.
- [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin.

For descriptive bulletin, address Industrial Controller Division, Square D Company, 4041 N. Richards St., Milwaukee 12, Wisconsin.

SQUARE D COMPANY

▼ REFER TO IEN-4236 ▼

ADAMS Aftercooler and Cyclone Separator

Dry, Moisture-Free, Oil-Free Air . . .

for your Compressed Air Tools

ADAMS Aftercooler removes [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin.

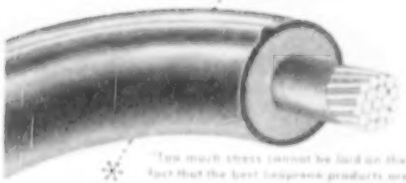
Assures dry [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin.

Write for Bulletin 704

R. P. ADAMS CO., INC. 219 E. PARK DRIVE BUFFALO 17, N. Y.

▼ REFER TO IEN-4237 ▼

a NEOPRENE SHEATH is no better than its COMPOUNDING*



*"Too much stress cannot be laid on the important fact that the best neoprene products are produced by those manufacturers who are skilled in the art of compounding neoprene."
E. I. du Pont de Nemours & Company, Inc.

Neoprene is a [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin. [illegible] Engineering Co., 4041 N. Richards St., Milwaukee 12, Wisconsin.

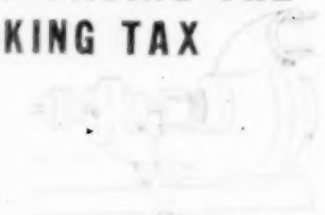
Uniformity of neoprene-sheathed cables, the Okonite Company has been producing them for nearly 20 years. Okonite's neoprene sheath has an unequalled service record under every condition of use. To these days of high installation and maintenance costs the outstanding performance of an Okonite neoprene sheath is more important than ever in low cost economy. Write for Bulletin D-1010 to save or reduce service calls in your plant. The Okonite Company, Passaic, N. J.

THE BEST CABLE IS YOUR BEST POLICY

OKONITE insulated wires and cables

▼ BRIEFITS—Identify by IEN - 4238 if you write the maker ▼

STOP PAYING THE PACKING TAX



Try

SYNTRON

"Replacement"

SHAFT SEALS

Syntron Seals provide the modern, economical method of eliminating leakage on centrifugal pumps, magnetos, etc. Self-adjusting — they provide fully automatic sealing. For water or oil or gases. Special seals for corrosive or abrasive liquids.

"The Seal with the long, long life"
Write Today

SYNTRON CO., 410 Lexington Ave., Homer City, Pa.

▼ BRIEFITS—Identify by IEN - 4239 if you write the maker ▼

NOW . . . A POLISHER THAT'S UNIVERSALLY ADJUSTABLE!

Built for use with the Vonnegut Brush-Backed Polishing Head, this unique tool is designed for sanding, smoothing or finishing contoured patterns—such as mouldings and formed or extruded shapes.

The brush bristles of the head automatically force abrasive strips to conform with and follow the shape of the pattern. The unique spindle stand (adjustable to any angle through 180° from vertical to vertical with head below or above the motor) makes it possible to bring the Vonnegut head into proper relation with a vertical, horizontal or angled surface of any pattern.

Don't hold back. Tell us about your finishing problems; we may have the answer to cutting your costs.

VONNEGUT MOULDER CORPORATION
1927 MADISON AVENUE • INDIANAPOLIS 25, INDIANA

▼ BRIEFITS—Identify by IEN - 4240 if you write the maker ▼

GET THESE FEATURES IN ALL YOUR FUTURE CYLINDERS

Hydraulic High Pressure

- Cushioning Unit Carrier Rubber
- Cast Steel or Steel-Steel End Caps
- Cast Gas Plates with Accurately Fitted Wiper
- Centerline Piston — 45° Rings on each end seal
- Adjustable End Cushions
- Exact cylinder/piston clearance — Adjustable Cushion Optional

Air and Low Pressure Hydraulic

- Compact — No Tie Rods
- Extra heavy walls of selected tubing
- Metal to metal assembly prevents piston cups
- Automatic end packing requires no take up. Seals under pressure
- Aluminum alloy pistons with steel cast retainer
- Extra long rod guide

HYDRO-LINE CYLINDERS CONFORM TO J.I.C. STANDARDS

➡ *FREE Additional Data*

Several additional construction and performance features are included in this catalog. Write for your copy today. Ask for bulletin 350.

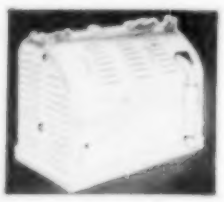
Hydro-Line

HYDRO-LINE MFG. CO.
5501 18th STREET
ROCKFORD, ILLINOIS

▼ BRIEFITS—Identify by IEN - 4241 if you write the maker ▼

GENERATOR . . Engine driven unit replaces battery on electric trucks

Source: READY-POWER CO.
2824-28 Grand River, Detroit 8, Mich.



New design of the company's Model H engine-driven generator is available with generator voltages of 30, 36, 60 and 72 volts dc for use on fork, platform or crane trucks rating 2 to 5 tons. Exterior dimensions of the Model H mounting have been changed.

The engine is governor controlled and now is mounted on bushing rubber feet to insulate it from stress due to movements in the truck structure. The belt adjustment is accomplished by moving the 6-volt battery-charging generator. A new gear-connected water pump has been added. The fan unit is now separate in a recessed area on the outside of the housing.

▼ BRIEFITS—Identify by IEN - 4242 if you write the maker ▼

CASTINGS . . Magnesium base containing zinc, zirconium, rare earths

Source: HOWARD FOUNDRY CO.
1702 N. Kostner Ave., Chicago 39, Ill.

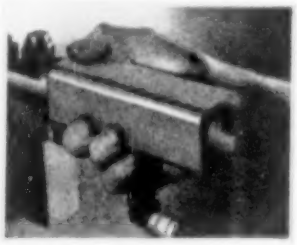
Technical data on request

Alloy ZRE-1 and ZSZ are two magnesium-base alloys developed in England for which the company has secured license for manufacture to cast form in the United States. Both alloys cast in fine grain structure with individual grain diameter under .0015 inch. Both are free from hot-tearing, machine readily, have good pressure tightness, corrosion resistance, are non-deforming under heat treatment. Applications include castings for use in jet engines and structural parts subject to temperatures to 300 deg. F.

▼ BRIEFITS—Identify by IEN - 4243 if you write the maker ▼

VIBRATING . . Pneumatic unit for bins, flasks, forms, hoppers

Source: CLEVELAND VIBRATOR CO.
2726 Clinton Ave., Cleveland 13, Ohio



Type SAH is a new design of the company's pneumatic vibrator with separate housing and attachment bracket. The bracket in this case is a steel block to weld to a surface on the equipment requiring vibration. The block, which is also secured to the vibrator body, is drilled and tapped for mounting bolts. Two sizes supply 3⅝ and 7 lb. maximum centrifugal force and 5,250 blows per min. on 100 lb. line pressure. Vibration weights are 7 and 15 pounds. The head is hardened. The cylinder is built with a hardened chromium-plated piston.

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 30

▼ BRIEFITS—Identify by IEN - 4244 if you write the maker ▼

NEW TOOL WELDS SAFETY-TREADS FASTER, BETTER AT LOWER COST

No Arc to "Hold" with New Vibrator Welding Tool—Deposits Non-Slip Beads on Metal Surfaces at 5 FPM—Total Cost 10c per Sq. Ft.

Now you can do a really effective job of preventing slipping and falling accidents on smooth metal surfaces, fast application tough metal beads, nuggets and studs, with the RUT-TRED vibrating electrode holder. Used with standard AC or DC welding machines, the RUT-TRED Tool deposits hard, hammering-wearing beads which retain their "gripping" characteristics even when worn or oily. As easy as drawing a chalk line. Fast—applies 5 feet per minute. No welding skill required—the RUT-TRED Tool vibrates the electrode for automatic, smooth arcing. Total cost for safety-treading one square foot with rod, including labor, material and power.

Slip-proof your metal stair treads, walkways, platforms, handling boards, floor panels, dock plates, ramps, etc. and forklift runways.

Write for FREE Booklet 36-A

METALLIZING ENGINEERING CO., INC.
LONG ISLAND CITY 1, N. Y.

▼ BRIEFITS—Identify by IEN - 4245 if you write the maker ▼

NO SPRINGS TO BREAK in the Nutting JACK IT'S ALWAYS DEPENDABLE

The Nutting Jack is the ONLY jack operated entirely by gravity and leverage. With no springs to break, there is no danger of any jack operated jacket suddenly being put out of service.

One lift truck and two steel skids cost about the same as two Nutting Jacks and handle twice the skids. That's one reason why the Nutting Jack pays back its cost in a hurry. Nutting Jacks are designed to be used in pairs, one at each end of the skid. Two men can operate them as easily as one man handles a single jack. The jack may be coupled to one skid, then uncoupled and coupled to another faster than the lift truck takes to fall about it.

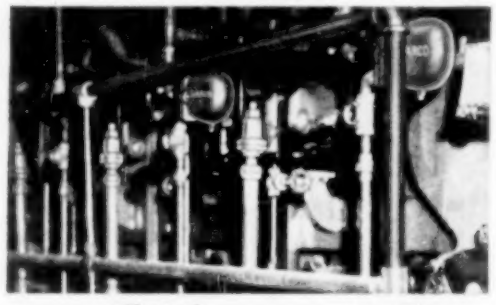
Send for Bulletin 48-J5

Look in your classified phone directory for your Nutting representative, or write the factory direct. It will pay you to get all the facts on this superior Nutting jack-skid handling system.

Nutting trucks circulating in over 1000 cities.

NUTTING TRUCK AND CASTER COMPANY
2011 Division Street, Faribault, Minnesota

▼ BRIEFITS—Identify by IEN - 4246 if you write the maker ▼



THE *Why* AND *How* OF AIR VENTING

There are two vital reasons why air should be removed at the point where it collects.

First—an air steam mixture always has a lower temperature than pure steam at the same pressure. Steam temperature at 15 psi is 249°F, but mixing 50% of air would reduce this to 212° F, equivalent to 0 psi pressure.

Second; and more serious, the air collects on the heated surface and insulates it from the hot steam, reducing output.

THE SOLUTION

First, select the right steam trap. The Sarco No. 9 Thermostatic for instance is wide open when cold. It lets all the initial air out fast. Other Sarcos let air out too, but only at the point where they are installed.

So the next step is to put in Sarco Air Vents at suitable spots in the lines—at the farthest point from entry of steam in process equipment—and at many points in your heating lines.

This is a subject of renewed interest because Sarco has recently designed a complete line of vents and made available special technical data on the subject.

ASK FOR CATALOG No. 275

SARCO SAVES STEAM

SARCO COMPANY, INC.
Representatives in Principal Cities
Empire State Building, New York 1, N.Y.
SARCO CANADA, LTD., TORONTO 3, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

▼ IEN-4248 ▼

8-Page
Condensed Catalog

shows Veeder-Root Counters for mechanical, electrical and manual operation. Write for a free copy.

VEEDER-ROOT INC.
HARTFORD 2, CONNECTICUT

▼ IEN-4249 ▼

THE NEEDLE...

or how a yell in the right direction can solve your bearing problems

● The main line was paralyzed. Nothing stirred. The only sound that broke the costly quiet was the jangle of dough going down the drain. At eight o'clock of a day that had started out to make a nice extra profit, an eight inch needle bearing had gone out on a stamping machine and taken the main line with it. Slowly resigned and there's no profit in a nine quiet stamping mill. They needed noise, and quick. But these boys knew a trick. They just started with a loud noise at their bearing specialist and soon got the right racket rolling. The specialist called the factory yelled, wires crackled, phones roared, bells rang, feet clattered and in two hundred and ninety nine minutes (approximately) there was a hell of a hum. Yes sir, full production ahead.

When you hear a painful silence, take your cue from quiet and call your Anti-Friction Bearing Distributors Association member and your troubles are almost over. In the above incident the bearing that had been at the factory eight hundred miles away at eight o'clock was installed and the line back in operation shortly after Luck. This is not unusual—this is the service every member of the Association renders his customers. So when you want service in large or small quantities, call your member of the Anti-Friction Bearing Distributors Association.

"INSTALLATION, MAINTENANCE, REMOVAL of ANTI-FRICTION BEARINGS"
This 20-page booklet tells you the how and why of caring for all types of bearings. Practical ideas on all phases of bearing life. Ask for it now!

A word about the ANTI-FRICTION BEARING DISTRIBUTORS' ASSOCIATION

A group of BEARING SPECIALISTS, working with and for every segment of industrial America—maintaining the highest standards of business ethics and occupying a place of service in industry for the services they render—handed together to further increase their usefulness to industry.

MEMBER AFBDA

THE ANTI-FRICTION BEARING DISTRIBUTORS' ASSOCIATION
1900 Euclid Ave., Cleveland 15, Ohio

▼ IEN-4251 ▼

WASH ROOMS . . Woman's urinal for standing use, need not be touched

Source: AMERICAN RADIATOR & STANDARD SANITARY
1939 Bessemer Bldg., Pittsburgh 22, Pa.

Sanistand [illegible]

Bulletin [illegible]

▼ IEN-4252 ▼

BUILDING . . Quonset utility unit, corrugated steel, open on one side

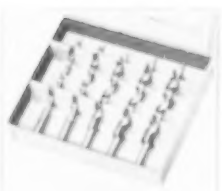
Source: GREAT LAKES STEEL CORP
50 Tecumseh Road, Detroit 29, Mich.

Inside dimensions [illegible]

▼ IEN-4253 ▼

WOOD WORKING . . Set of drill bits for electric tools, 1/4 to 1/2 inch

Source: GREENLEE TOOL CO.
2134-8 12th St., Rockford, Ill.



No. 638 [illegible]

All Makers of Them Are All Other Products Are Listed in THOMAS REGISTER — Descriptions — Ratings — See Page 10

▼ IEN-4254 ▼

McDonald REVERSALARM MAKES IT SAFE FOR TRUCKS TO BACK UP

Mounted on the rear of the truck chassis, the McDonald REVERSALARM sings with sufficient volume to give adequate warning under all conditions. Simple in design, rugged in construction, single stroke, low current requirement going first special momentary interrupter switch that connects to transmission speedometer take-off housing only when the truck engine is in reverse — automatically stops when truck stops.

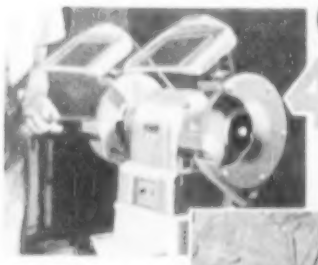
WRITE FOR BULLETIN AND PRICES

B. F. McDONALD CO.
Mnfrs. and Distributors of Industrial Safety Equipment
5110 SOUTH HOOVER ST., LOS ANGELES 37, CALIF.
Other Offices in San Francisco & Houston

▼ IEN-4255 ▼

▼ IEN-4256 ▼

11 ways to CUT GRINDING COSTS!



B&D
Bench Grinders

4 B&D
Portable Grinders

3 B&D
Die Grinders

B & D Bench, Portable and Die Grinders give you MORE OUTPUT . . .

Per MAN

Per HOUR

Per TOOL

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PORTABLE ELECTRIC TOOLS

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CAMBRIDGE EXTENSION PYROMETER

This Cambridge Surface Pyrometer is extremely useful in the Paper, Textile and Steel industries for the determination of surface temperature in hard to get at places. It is accurate, dependable, rugged, quick-acting and easy to use. Other single purpose and combination models also available for use in Rubber, Plastics, Printing, Glass and Electrical and many other industries.

Send for bulletin 701 S.A.

CAMBRIDGE
ROLL — NEEDLE — MOLD
PYROMETERS

CAMBRIDGE INSTRUMENT CO., INC.
Pioneer Manufacturers of Precision Instruments
3710 Grand Central Terminal New York 17, N.Y.

▼ FREE!!!—Identify by IEN-4259 if you write the maker. ▼

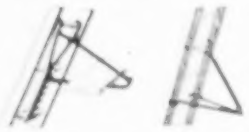
Save
COSTLY MAN HOURS with "TROUBLE SAVER" *Adjustable* STEEL TRESTLES

Safe! Strong! Economical!

Here's the safe, sure, low-cost way to handle all overhead and sidewall work. You get every job done faster. "Trouble Saver" Adjustable Steel Trestles save time, labor and money for plasterers, contractors and maintenance men . . . *and that means more profits.*

At left: details of the quickly adjustable "Trouble Saver" Steel Trestles—made in eight sizes.

LADDER JACKS



ONE-MAN Ladder Jacks (left) adjust to any pitch on either side of the ladder. Weight is distributed on three rungs. *They're instantly adjustable and absolutely safe.* New rail jack (right) provides added safety by using side rails of ladder for support.

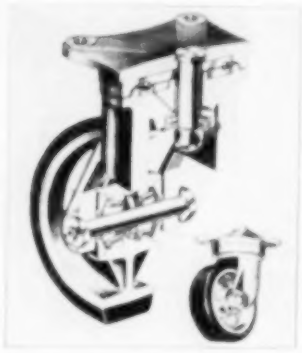
Write today for new catalog and complete information on all types of "TROUBLE SAVER" equipment.

Save Money — Get Greater Safety . . . Efficiency . . . Economy
THE PATENT SCAFFOLDING CO., Inc.
Dept. IE 10-21 12th Street Long Island City 1, N. Y.
BRANCH OFFICES: Atlanta • Boston • Chicago • Cleveland • Dallas • Detroit • Kansas City, Mo. • Los Angeles • Miami • Milwaukee • Philadelphia • Pittsburgh • San Francisco • St. Louis • Seattle

▼ FREE!!!—Identify by IEN-4261 if you write the maker. ▼

CASTER . . Heavy duty aluminum to 10 in. wheel, rates ¾ to 1½ ton.

Source: AEROL CO.
2818-22 Ontario St., Burbank, Calif.



No lubrication is required in the field for this new heavy duty aluminum caster. All bearings are factory lubricated and sealed in air-tight, water-tight assembly. Steam under pressure or developed corrosion will not disturb or harm the O-ring seals. The entire caster and its companion rigid assembly measure 8⅝ in. from axle center to top plate. Both take wheels to 10 in. in diameter. One made of aluminum with a solid rubber tread measures 10 in. rates 1,500 lb. load capacity at a speed of 22 mph. Another with aluminum tread measures 8 in. in diameter and rates 2,000 lb. at 22 mph.

The swivel caster takes the load on a single row of ⅝ in. balls in hardened steel races cut recessed in the plate and horn. A Torrington needle bearing applies on the 1¼ in. kingpin which is anchored in the plate and fitted with a cupped seal set in the upper end. A Timken thrust bearing is assembled in the horn. The swivel bearing wheel rides on a 1.50 axle in both the swivel and rigid designs.

▼ FREE!!!—Identify by IEN-4262 if you write the maker. ▼

CRUSHING . . Double rotor machine for damp coal and similar materials

Source: STEPHENS-ADAMSON MFG. CO.
231 Ridgeway, Aurora, Ill.

New design of the company's 4-roller crusher shown) uses more rotor mass with its own motor for independent operation. Rotation is toward the center at the top so lump coal is further fattened to be split and broken while it is falling from the central top entrance. The broken pieces fall to grates with most openings through which the sizes of tramp iron expected might pass, and straight side chutes to subsequent lumps. Over-weight, jammed pieces roll and pieces are all subject to reversed conditions for regular and successive handling.

Pieces of tramp iron too large to pass through the grate openings are by-passed around the first rotor to strike breaker shafts and plates straight side chutes to subsequent lumps. Over-weight, jammed pieces roll and pieces are all subject to reversed conditions for regular and successive handling.

All Makers of These And All Other Products Are Listed in THOMAS REGISTER — Descriptions — Ratings — See Page 50

▼ FREE!!!—Identify by IEN-4263 if you write the maker. ▼

The World's Most Efficient CONCRETE DRILL

THE TILDEN ROTARY KONKRETE KORE DRILL

- Drills at 2 to 6 inches per minute
- Drills reinforcing bars and beams in concrete
- Drills up to 30 feet of concrete without resharpening
- Cores straight, clean holes for anchors, conduit, etc.
- Uses ordinary electric drill

Check concrete drilling prices no-obligation estimates of performance or actual

Tilden drill bits are available in diameters from ¾" to 6". Illustrated above: Carbide tip for drilling concrete, brick, stone, etc. Diameters of larger than ¾" are available.

If you want to know more about concrete drilling, write today for catalog with complete details on these revolutionary concrete drill bits.

TILDEN TOOL MANUFACTURING COMPANY
1995 NO. FAIR OAKS, PASADENA 2, CALIFORNIA

▼ FREE!!!—Identify by IEN-4264 if you write the maker. ▼

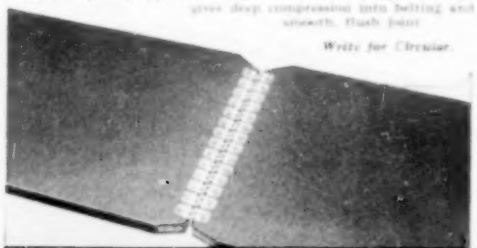
HINGED PLATEGRIP
BELT FASTENER No. 500

For Heavy Conveyor Belts of Changing Length

These heavy-duty belt fasteners make a strong, flexible joint in conveyor belts, belts of any width and of from ⅜" to ½" thickness. They offer special advantages in mines, quarries or industrial setups where length or position of belt is frequently changed, because sections can be removed or added at will. Joints are opened for this purpose by simply pulling out the hinge pin.

Easily and quickly applied on the job or in the shop. Special design gives deep compression into belting and smooth, flush joint.

Write for Circular.



ARMSTRONG-BRAY & CO.
5380 NORTHWEST HIGHWAY CHICAGO 30

▼ FREE!!!—Identify by IEN-4265 if you write the maker. ▼

a remarkable new label

faster to apply...easy to remove!

The remarkable new "secret adhesive" of Kum-Kleen prevents wrinkled labels with edges to the most difficult to label surfaces without heat or moistening. Labels resist cold or pop even in temperature and humidity extremes. Because they're peelable, rims may be placed on parts and equipment in the exact spot they should go. Will not mar the surface or leave a trace.

Kum-Kleen labeling pays in other ways! Many users say the time and money savings of Kum-Kleen dispensing methods pay cost of labels!

Kum-Kleen

ADDRESS DEPT. IEN-5
AVERY ADHESIVE LABEL CORP.

▼ FREE!!!—Identify by IEN-4266 if you write the maker. ▼

VIKING FEATURES THAT MAKE FOR GOOD PUMPING

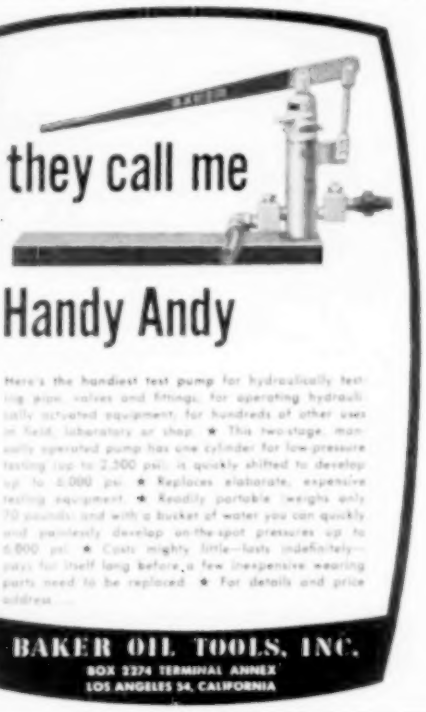
1. ONLY TWO MOVING PARTS
2. SELF PRIMING
3. SLOW SPEED—LONG LIFE
4. OPERATES IN BOTH DIRECTIONS
5. SINGLE STUFFING BOX

VIKING
ALL GENUINE VIKING PARTS ARE STAMPED WITH THIS NAME

Use the coupon given on Viking Pumps for any industrial application listed under Sewage and Waste Water.

Viking PUMP COMPANY
Cedar Falls, Iowa

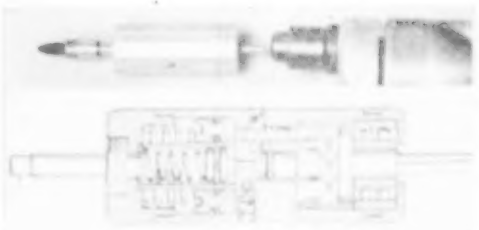
▼ GREETS—Identify by IEN-4267 if you write the maker ▼


they call me
Handy Andy
Here's the handiest test pump for hydraulically testing pipe, valves and fittings, for operating hydraulically actuated equipment, for hundreds of other uses in field, laboratory or shop. ★ This two-stage, manually operated pump has one cylinder for low-pressure testing (up to 2,500 psi), is quickly shifted to develop up to 6,000 psi. ★ Replaces elaborate, expensive testing equipment. ★ Readily portable (weighs only 70 pounds) and with a bucket of water you can quickly and painlessly develop on-the-spot pressures up to 6,800 psi. ★ Costs mighty little—lasts indefinitely—pays for itself long before a few inexpensive wearing parts need to be replaced. ★ For details and price address
BAKER OIL TOOLS, INC.
BOX 2374 TERMINAL ANNEX
LOS ANGELES 54, CALIFORNIA

▼ GREETS—Identify by IEN-4270 if you write the maker ▼

WRENCH . . Torque limiting head for drive by portable tool or by hand

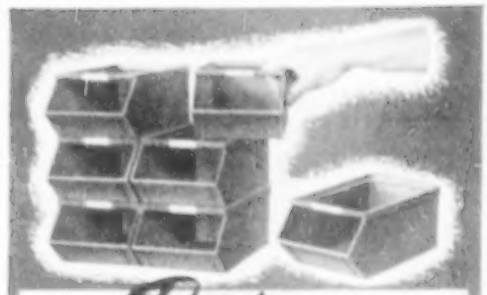
Source: DeSELMS RESEARCH
1913-17 E. Central, Wichita 7, Kansas



Driving effort

Turning resistance

▼ GREETS—Identify by IEN-4273 if you write the maker ▼


Parts . . .
★ Where You Want Them . . .
★ When You Want Them
Write Stackbin Corp., 1071 Main St., Pawtucket, R. I.
STACKBIN SYSTEM
"Stocked and Still Accessible"

▼ GREETS—Identify by IEN-4268 if you write the maker ▼

Not cut...Not cast... but Precision FORGED by AMGEARS!

Yes! Now you can get precision forged-tooth spur, helical, sprockets and clutches! Amgears is supplying precision forged gears from 3 diametrical pitch to approximately 10 diametrical pitch, operating up to 8000 rpm, and 800 fpm. pitch line velocity.

Send blueprints or specifications giving shaft speeds, horsepower, center distances and gear ratios. We'll tell you promptly what Amgears can do to save you money and eliminate gear failures.

*ASM — Accurately Made

Also: Production and Precision Cut and Ground Gears

AMGEARS, INC.
6633 West 65th St., Chicago 38, Ill.
POrtsmouth 7-2100

AMGEARS, LTD.
CHICAGO 38, ILLINOIS
A SUBSIDIARY OF KUPP CORPORATION
CONTRACT MANUFACTURERS

▼ GREETS—Identify by IEN-4271 if you write the maker ▼

PUMP . . Pneumatic assembly for heavy materials has remote control

Source: GROVER C. SMITH MFG. CO.
652 E. Valley Blvd., San Gabriel, Calif.

Mechanical Man

This action

The conquest

All Makers of Parts and All Other Products Are Listed by THOMAS REGISTER — Descriptions — Ratings — See Page 30

▼ GREETS—Identify by IEN-4274 if you write the maker ▼

WORTHINGTON
Balanced Angle Air Compressor

Completely redesigned to give you—
smoother performance with V-type cylinder arrangement
higher efficiency with isolated cylinders, aluminum heads
lower maintenance with Feather* Valves, Timken bearings
longer life with balanced-weight pistons, drop-forged steel crankshaft

Your Worthington Air Compression distributor has a complete line of single and two-stage models, bare or tank-mounted, ½ to 15 hp. *Reg. U.S. Pat. Off.

WORTHINGTON PUMP AND MACHINERY CORPORATION
PUMP AND COMPRESSOR
MECHANICAL DIVISION
HARRISON, NEW JERSEY
DEPT. PG0913

WORTHINGTON

The Good Right Hand of Industry

▼ GREETS—Identify by IEN-4269 if you write the maker ▼

FREE FLOOR PATCH FOLDER AND METAL REPAIR HANDBOOK

SMOOTH-ON MFG. CO., Dept. 1
570 Communipaw Ave., Jersey City 4, N. J.

Do it with SMOOTH-ON QUICK FLOOR PATCH CEMENT

▼ GREETS—Identify by IEN-4272 if you write the maker ▼

Tailored to Your Needs

• Whether you have engineered or signed by engineering we have a new, informative booklet that's tailored for you. It will give you valuable information on fast and right production of property and perimeter for means of know that a new fenced to your requirements. Your Page Chain Link Fence can be of the style, height and metal that's best for you, no matter what the conditions. And it will be erected by experienced, local experts who offer more than a product — a complete fence service. Write for DH-142. It'll be worth your time and address of nearest Page fence specialist.

Write to PAGE FENCE ASSOCIATION
in Montreal, Que., Atlanta, Baltimore, Chicago, Denver, Detroit, Los Angeles, Philadelphia, Pittsburgh, New York or San Francisco

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

▼ GREETS—Identify by IEN-4275 if you write the maker ▼

STAINLESS is PAINLESS... when you work from FRASSE STOCKS

Whatever steel is your product, it's no problem when you work from the wide choice of shapes and stainless immediately available from Frasse warehouse stocks.

Mentioned for instance, are numerous commercial sizes now under mill quota restrictions for regular standard customers in between! Safety, as all stocks are inventoried right off the mill sheets.

The Directory is your pocket where you will find whether you'll find the exact shape and stainless you want in the jiffy.

Eight Sales & Frasse Plants from coast to coast . . . with warm and friendly service.

Frasse is the place for stainless steels. Just call Frasse & Frasse and Co. Inc., 10 Grand Street, New York 13, N. Y. Phila. Buffalo, Syracuse.

FRASSE for Stainless Steels

NEW! Improved stainless tubing in 3 precision rolling angles (L-405) and (T-410) for new corrosion, heat and temperature resistance of Inconel, Monel and stainless from 18/8 to 25/20 and straight from 18/8 to 25/20 as well. Write for your free copies today.

REFER TO INDUSTRIAL EQUIPMENT NEWS IN YOUR INQUIRIES TO MANUFACTURERS SO THEY CAN SEND SPECIFIC INFORMATION

▼ BRIEFITY—Identify by IEN - 4276 if you write the maker ▼

Can You Use SELF-LUBRICATING JOHNSON LEDALOYL BEARINGS?

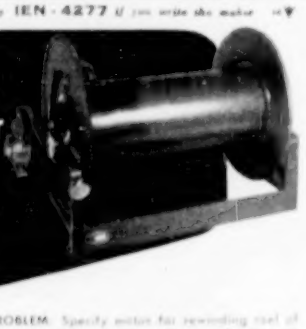
IF SO, YOU WILL SAVE MONEY

NEW USES for these porous, oil-impregnated bearings are being discovered every month. You may need them for applications difficult to lubricate. They may even be sealed in place. Made by powder metallurgy, they are very low in cost. Johnson engineers will assist you in determining whether Ledaloyl Bearings can be used to advantage. Write today.

Johnson Bronze
SLEEVE BEARING HEADQUARTERS
476 SOUTH MILL STREET • NEW CASTLE, PA.

▼ BRIEFITY—Identify by IEN - 4277 if you write the maker ▼

how to get safe power where sparks are taboo



ASK FOR "APPLICATION-IDEAS" BOOKLET — ALSO GAST CATALOG

100 PAGE CATALOG IN SHEETS & FILE

"AIR MAY BE YOUR ANSWER!"

PROBLEM: Specify motor for rewinding reel of hose on high-octane gasoline (and oil) tank trucks. Must be 100% safe in explosive atmospheres . . . must run off truck power sources.

SOLUTION: GAST (Model 4AM) Air Motors connected to truck's high-pressure pneumatic brake system. Developing ½ H.P., motor is geared down through chain and sprocket.

RESULT: Complete safety with rotary-vane air motor. No sparks — no danger! Variable speed motor develops plenty of torque for smooth rewinding without jerks.

Many similar — and totally different — engineering problems have been solved successfully with GAST Rotary Air Motors. As original equipment, they offer explosion-proof safety — variable speed from 100 to 6,000 R.P.M. — reversibility — compactness — and other unique advantages. If these features could improve your product, write GAST a brief description of your problem.

GAST ROTARY — AIR MOTORS · COMPRESSORS · VACUUM PUMPS

▼ BRIEFITY—Identify by IEN - 4278 if you write the maker ▼

Things to think about when selecting Unit Heaters

MODINE UNIT HEATERS

▼ BRIEFITY—Identify by IEN - 4279 if you write the maker ▼

MAGNET . . Permanent roller unit to pick up ferrous metal parts, scrap

Source: ERIEZ MFG. CO.
1303 E. 12th St., Erie, Pa.

Metal tube, permanently magnetized over most of its length, is mounted between neoprene wheels and is fitted with a push handle as shown in the illustration. The tube attracts ferrous metal parts to it as it is rolled along until it has become loaded. Then the accumulated pieces are removed by pushing a wiper ring from one end to the other where a non-magnetized section releases the holding grip.

Sizes range from 12 to 36 in. in tube length. List price is $20.50 to $108.

▼ BRIEFITY—Identify by IEN - 4280 if you write the maker ▼

CONVEYING . . Crowned face pulleys 6 and 8 in. diameter, to 38 in. length

Source: ISLAND EQUIPMENT CORP.
27-03 Bridge Plaza N., Long Island City 1, N. Y.

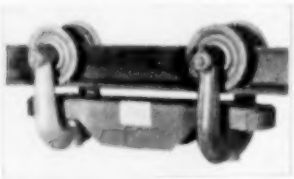
List price range is $16 to $45.60

New line of conveyor-belt pulleys employs steel tubing with a ⅛ in. wall thickness at the center, machined on both sides of center on a taper of ⅛ in. per foot to provide a crown. Discs are welded in at 1½ in. from each end and also are welded to the center shaft, which measures 1⅜ in. in diameter. It projects for bearing support and drive connection from both ends. Tube length ranges from 6⅛ to 38⅛ inches. Thickness of the tube wall at the ends is minimum at a bit under ⅜ in. in the 38⅛ in. length.

▼ BRIEFITY—Identify by IEN - 4281 if you write the maker ▼

MONORAIL . . Pressed steel trolley, has 4½ in. chilled cast iron wheels

Source: FORKER CORP.
2033 Random Road, Cleveland 6, Ohio



The wheel forks in this new trolley are made in four mating parts and are welded together into a light-weight tubular structure to support a channel-shaped load bar that is fitted with a load pin. The forks mount chilled cast iron wheels with crowned treads, straight flanges and anti-friction bearings. A 15-lb. pull per ton of load will start movement. A 10-lb. pull will maintain motion on a level track.

Basic length of the four wheel assembly is 30 inches. Other lengths to 50 in. can be supplied. Eight wheel assemblies are available also with forks on 9-8-9-8-in. to 16-40-16-in. centers.

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BRIEFITY—Identify by IEN - 4282 if you write the maker ▼

STOP SMASHING fingers, limbs, lives!

NOLAN ONE MAN CAR DOOR OPENER

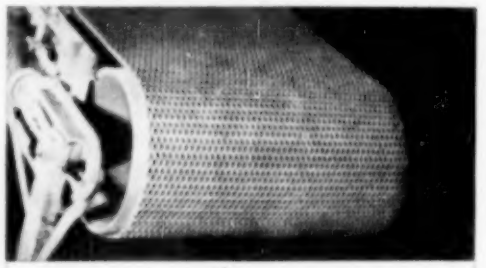
One man can open the most binding balky box car door with the Nolan Car Door Opener. Get greater safety . . . speed loading and unloading schedules . . . order an ample supply to fill your needs today!

*No strained muscles. No slips or falls. No broken arms, legs or mashed fingers. No fatalities. No time wasted. No "gangs" needed. No time loss.

Write for free descriptive literature.

THE NOLAN COMPANY, 114 Pennsylvania St., Bowerston, Ohio

▼ BRIEFITY—Identify by IEN - 4283 if you write the maker ▼



Meats and Metals RIDE SAFELY ON WISSCO BELTS

Wissco Belts are custom-engineered to carry such diversified products as meats or metals. Operating at temperatures from 40° to 2100° F., Wissco Belts assure greater production, lower handling costs and more uniform quality.

Wissco Belts are designed to resist corrosion and abrasion. They are the accepted standard for the heat treatment of metals, glass and ceramic ware, and for processing of foods and other products.

Write for our catalog showing Wissco Belts, their use and application.

WISSCO METAL CONVEYOR BELTS
A PRODUCT OF WICKWIRE SPENCER STEEL DIVISION OF THE COLORADO FUEL AND IRON CORPORATION

Sales Office and Plant — 28 Sterling Street, Clinton, Massachusetts
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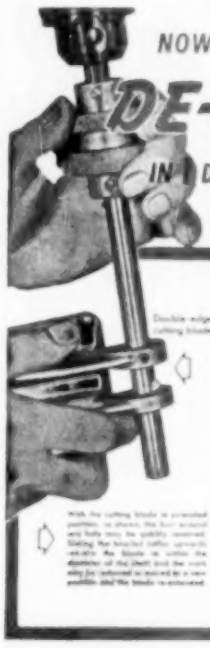
Sales Offices — Boston • Buffalo • Chicago • Denver • Detroit • New York • Philadelphia
Pacific Coast — The California Wire Cloth Corporation, Oakland 6, California

▼ BRIEFITY—Identify by IEN - 4284 if you write the maker ▼

NOW MULTI-WALLED PARTS DE-BURRED IN 1 DOUBLE-QUICK OPERATION



NEW NOBUR BURR-REMOVING TOOL QUICKLY AND EASILY REMOVES BURRS FROM HOLES ON MULTI-WALLED PARTS!

NOBUR eliminates slow, costly hand methods of burring . . . used on any machine tool, lathe, drill press, portable electric drill or on end of a flexible shaft. Miniaturizes costly rejects . . . enables operator to do more in less time . . . increases production, lowers production costs. No skilled help necessary . . . easy to operate . . . green "trainees" and women operators do burring with speed and accuracy . . . smooth, clean cutting action of the NOBUR will pass the most critical inspection. Important parts are hardened and ground. Shaft is finished to a diameter slightly under its basic size. . . double-edged cutting blade is of special tool steel, cuts freely in either alloy steels or soft metals. Tool is simple in construction — rugged. For complete information — write . . .

With the cutting blade in extended position, as shown, the burr around any hole may be quickly removed. Sliding the bracket (with spring) retracts the blade to within the diameter of the shaft and the work may be delivered or removed in any position and the blade re-extended.

NOBUR MANUFACTURING CO.
717 N. Victory Blvd., Burbank, California

NO BUR TOOLS

▼ BRIEFITY—Identify by IEN - 4285 if you write the maker ▼

Write for Bulletin 1B-10

Can You Do Better

WITH ROLL-FORMED . . . OR EXTRUDED METAL SHAPES?

For the lowest possible cost on light metal shapes, see what Werner can do for you. Send for the free bulletin.

Our recommendations will surely be unbiased, for we make *both* types . . . *extruded* shapes in aluminum, magnesium . . . *rolled* shapes in aluminum, stainless steel, brass, zinc, etc.

We custom-make shapes to your order, and do such secondary fabrications as polishing, punching, drilling, slotting. Delivered in strips, coils or cut to exact lengths.

R. D. WERNER CO., INC.
295 Fifth Ave., New York 16, N. Y.
Manufacturers of Metal Extrusions and Rolled Shapes

▼ BRIEFITY—Identify by IEN-4286 if you write the maker ▼

This helpful TURBULAIRE Chart may be the key to YOUR SPRAY DRYER PROBLEM

Send for your copy today!

The Turbulaire "Type N" Spray Dryer—an advanced type of dryer complete with collector for recovering the dried material, a heater and other optional equipment all combined into one compact unit—is an entirely new concept in spray drying equipment. It is ideal for research and pilot plant investigations into the "drvability" of various products as well as for small-scale production drying.

Whatever your requirement (spray drying may be the solution to your plant cost, the development of product or process, or the new products—or help you to investigate the unusual possibilities of the Turbulaire Type N.

Send for application chart which shows the unusual versatility of the TURBULAIRE Type N. With it we will also send an engineering booklet giving you many helpful facts about the Type N. Write today!

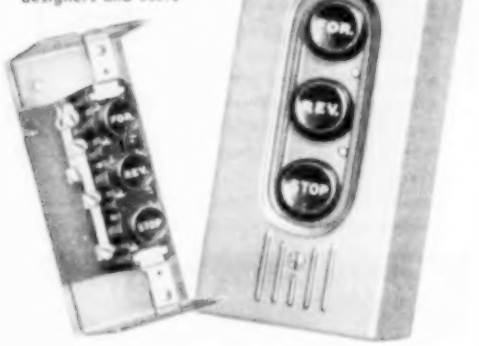
WESTERN Precipitation CORPORATION

[illegible] WEST SIXTH STREET, LOS ANGELES 14, CALIFORNIA
CHRYSLER BLDG., NEW YORK 17 • 1 CANADA ST. BLDG., 176 W. JACKSON BLVD., CHICAGO 4 • HOBART BUILDING, SAN FRANCISCO 4, CALIFORNIA
PRECIPITATION CO. OF CANADA, LTD., DOMINION SQ. BLDG., MONTREAL

▼ BRIEFITY—Identify by IEN-4287 if you write the maker ▼

NEW CUTLER-HAMMER STANDARD DUTY 3 ELEMENT PUSHBUTTON STATION

with the greatest array of wanted features ever offered to machine designers and users



Cutler-Hammer announces a new standard duty 3 element pushbutton station for use with magnetic starters on reversing and 2-speed drives. This new 3 element station can be described as the station most closely formulated to the requirements of the men who design, buy, use and service motor-driven machines. It has every wanted and important feature, every feature found in any other 3 element station and some features found nowhere else. Check the new pushbutton station carefully and let your comparison be your guide. CUTLER-HAMMER, Inc., 1278-86 Pilsud Ave., Milwaukee 1, Wisconsin. Associate: Canadian Cutler-Hammer, Ltd., Toronto, Ont.

CHECK THESE FEATURES

Let your COMPARISON be your guide!

[illegible]

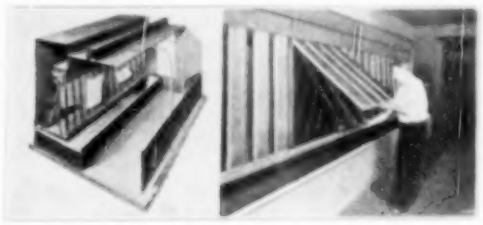
CUTLER-HAMMER MOTOR CONTROL

NEW 3 element standard duty pushbutton station rated up to 600 volts.

▼ BRIEFITY—Identify by IEN-4289 if you write the maker ▼

PAINTING . . Water curtain booth collects and removes the overspray

Source: R. C. MAHON CO.
8648-52 Mt. Elliott, Detroit 11, Mich.



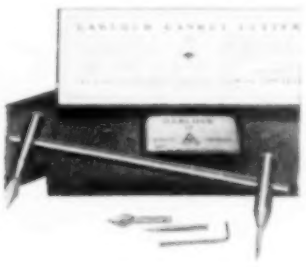
Overspray from paint, grease and oil workers in the front of this new booth is drawn through a curtain of chemically treated water, then is subjected to a turmoil of the same wash water to collect it from the air stream not caught by a suction hooder serving the booth. The overspray accumulates in the water tank at the bottom of the booth from where it is continuously removed by a hydraulic conveyor and carried to a sludge segregator and settler. The oil separates to float on the water, retrieves the water in the tank and delivers the sludge to a container for reclaiming.

Feature in the design is in the rectangle fitted Hydrastic fluid sheet consisting of staggered front and rear sections through which the air is drawn and is freed of what is in the mist of water curtain. Patents have been applied for on the sheet design, which is duplicated at the exit wall of the washing chamber back of the working area. Patents have been applied for also on the sludge segregator and settler. The company is prepared to design and build the booth to any dimensions for given work.

▼ BRIEFITY—Identify by IEN-4290 if you write the maker ▼

CUTTING . . Adjustable gasket tool for asbestos, cork, fibre, rubber

Source: GARLOCK PACKING CO.
50 Garlock St., Palmyra, N. Y.



A knife with a spear-shaped blade and a center point are mounted to holders that can be adjusted along a ⅜-in. round steel bar in this new gasket cutter. The point and knife can be located at any distance apart between ⅛ and 9½ inches. Larger gaskets can be cut by substituting a longer bar. The parts are packaged in a steel box for safe-keeping. Included is an extra blade and also an extra point.

In addition to cutting gaskets from sheet materials the tool can be employed in layout work with the two points in place of the knife and one point carrying a pencil for scribing on metal or non-metallic surfaces, dimensions marking off. The bar carries a measuring scale, stamped into the metal for dimension setups, with markings to radii and diameters.

All Makers of Parts And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

▼ BRIEFITY—Identify by IEN-4291 if you write the maker ▼

Ready FOR You!

New Bulletin

Presents NOPAK "Series 1500" High Pressure Hydraulic Cylinders

Designed for heavy duty service at high pressures, the New 1500 Series embodies features which contribute to long-range dependability and trouble-free operation. Included are: Positively Locked Piston Assembly, Tubing Flanges secured by Lock Rings, Compensating Rod Wipers, "O" Ring Static Seals between heads and tubing. Available in 5 standard mounting, with or without Adjustable Cushioning.

GALLAND-HENNING MFG. CO., 2760 S. 31st Street, Milwaukee 15, Wis.

WRITE FOR NOPAK BULLETIN HC-1

Representatives in Principal Cities

NOPAK VALVES AND CYLINDERS
DESIGNED for AIR and HYDRAULIC SERVICE

▼ BRIEFITY—Identify by IEN-4292 if you write the maker ▼

HANNIFIN AIR PRESSES

1. Minimum Investment!
2. Less Effort!
3. More Output!

59 Models—½ Ton to 18 Tons

FOR fast, efficient, low cost production with a minimum investment in equipment, Hannifin Air Operated Presses can't be beat for countless pressing, broaching, molding, staking, making, bending, punching, forming, oil grooving, riveting, keyway cutting, and assembly operations.

HIGH SPEED, EFFICIENT—Effortless speed through new instant-acting valves. Use ordinary shop air supply.

EVERY WORK CONVENIENCE—Finest Hannifin engineering and construction. Send for descriptive bulletins. HANNIFIN CORPORATION, 1107 So. Kilbourn Ave., Chicago 24, Illinois.

HANNIFIN
Air Operated Presses

▼ BRIEFITY—Identify by IEN-4293 if you write the maker ▼

CHAINS

Steel, Malleable Iron or "SUPERMAL"—a type and size to meet every need—conveying, elevating or driving. Chains were our earliest product—we know how to make them exceptionally well. Other products in the broad Jeffrey line include:

Conveyors	Crushers	Screens
Feeders	Dryers	Bin Valves
Bucket Elevators	Coolers	Sprockets

JEFFREY

THE JEFFREY MANUFACTURING CO.
914 N. Fourth Street Columbus 16, Ohio

▼ BRIEFITY—Identify by IEN-4294 if you write the maker ▼

PYLE-NATIONAL INDUSTRIAL LIGHTING FIXTURES

for safety
IN HAZARDOUS LOCATIONS

EXPLOSION PROOF

Pyle-National LE Series: Class I, Groups C and D

For use in locations where highly flammable materials are manufactured or handled.

Rugged, flame-tight cast aluminum alloy housings render internal explosions harmless, and insure safe operating temperatures. Threaded construction permits easy access to interior for wiring and lamp replacement. Available in many types and sizes.

DUST-TIGHT

Pyle-National DE Series: Class II, Groups E, F and G

For use in locations where flammable dusts are present.

Rugged, one-piece cast aluminum alloy housings are designed to keep dust from the interior and to avoid accumulation of dust on the exterior surface. Available in many types and sizes.

Consult the new PYLET Catalog for complete line of explosion-proof supporting PYLETS for lighting fixture mounting.

THE PYLE-NATIONAL COMPANY
1348 NORTH KOSTNER AVENUE CHICAGO 51, ILLINOIS
District Offices and Representatives in Principal Cities of the United States.

PLUGS AND RECEPTACLES • FLOODLIGHTS • CONDUIT FITTINGS

▼ FREE!—Identify by IEN-4295 if you write the maker ▼

CUT WASHROOM UPKEEP

With these exclusive Sperzel features

LP-20
Available in Black or White

- OPEN FRONT AND BACK DESIGN . . . cuts cleaning time to a minimum. No germ collecting crevices . . . always sanitary.
- SELF-RAISING . . . seat remains upright when not in use with bowl serving as urinal. Seat stays clean and dry.
- DURABLE . . . double strength plastic pads are shatter proof, fireproof. Assure long life and low maintenance.
- SOLID PLASTIC strong and durable. Plastic covered hinge is moisture proof, dirt free.

WRITE NOW for catalog for full details on model LP-20 (illus.), model LP-80 with self-sustaining hinge, and a complete line of commercial models.

DEPT. IE

THE SPERZEL COMPANY

All Sperzel Seats fit Standard Bowls

123 14th AVENUE S. - MINNEAPOLIS, MINN.

▼ FREE!—Identify by IEN-4298 if you write the maker ▼

PLASTICS . . Contract service for specified formed thermoplastics

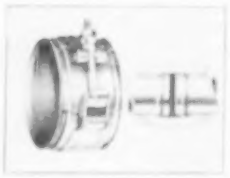
Source: TUT INC.
Gordon Bldg., Auburn, N. Y.

Tutorial process of a new setup for the company engineering department leading to consultation with designing of thermoplastic plastic products to those needs. Production runs of varying sizes of small quantities can be made on specified products such as cosmetics, toys to forged products or even injection units for the fabrication of available plastic materials. The finished parts in clear, color, patterns, size is exactly specified. Thickness to 3/16-in. I.D. to 6 ft. Tool cost is no factor.

▼ FREE!—Identify by IEN-4299 if you write the maker ▼

TUBE FITTING . . Clamp coupling and sealing liner for beaded tubes

Source: MARMAN PRODUCTS CO.
9312-42 W. Florence Ave., Inglewood, Calif.



Sizes range from 1 to 4 in. Clamp coupling and sealing liner for the two pieces of beaded tube to connect and with a close fitting inside the connection. The clamp and liner are made with a good sealing range. Temperature range is 3 feet lbs. The liner is made of synthetic rubber compound. Clamp is made of stainless steel. Pressure to 400 psi.

▼ FREE!—Identify by IEN-4300 if you write the maker ▼

CLEANING . . Attachment tank feeds solution to floor brush machine

Source: KENT CO.
279 Canal St., Rome, N. Y.

Sent tank, made of stainless steel, has been designed to supply, on the control handle of the company's floor brush machine, the cleaning solution and a detergent powder. It does not clean, but is a supplement to the machine.

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER — Buyers' Guide — See Page 56

▼ FREE!—Identify by IEN-4302 if you write the maker ▼

1,500,000
CONNECTING RODS
. . . without a
SINGLE FAILURE!
No Bushings Necessary on Either the Wrist Pin or Crank Shaft
600 Metal has been particularly successful when used for connecting rods on compressors for refrigerators, semi-tractors, outboard motors, small high speed gasoline engines, and literally scores of other applications.
600 Metal has a decided advantage of operating satisfactorily when lubrication is poor.
Write us if you have a bearing problem. 600 Alloy is for those tough jobs, and may be the very solution. Complete literature is available.
600 SERIES BEARING METAL
MUELLER BRASS CO.
PORT HURON, MICH.

▼ FREE!—Identify by IEN-4303 if you write the maker ▼

HEATING COMPOUNDS EFFICIENTLY

requires good engineering, too!

The efficient heating and dispensing of compounds, adhesives and soft metals requires good engineering and that's where Sta-Warm can help you. Many years of specialized experience with product design and job application by Sta-Warm is yours to trade on and profit from . . . if you give Sta-Warm a chance to help you. Inquire today for their product folders for your files.

100 gal. cylindrical melter with motor driven agitator

5 gal. bench type melter with motor driven agitator and needle valve dispensing orifice

Sta-Warm ELECTRIC CO.

560 N. CHESTNUT ST. • RAVENNA, OHIO

▼ FREE!—Identify by IEN-4296 if you write the maker ▼

The Motor-Weighted
Floor-Maintenance Machine that

Waxes Too!

Waxing, too, can be done mechanically — and by the hot-wax process — with a 600 Series Finnell, a Finnell Dispenser, and Finnell Kote Solid Wax. In this process, the genuine wax content (over three times greater than average wax in the case of Finnell Kote) is thoroughly utilized. Thus hot waxing reduces the frequency of waxing!

The 600 Series Finnell is equipped with a Feather-Touch Safety Switch that provides complete automatic switch control. Switch works with either hand from either side of handle. When handle is released, machine stops. Self-propelled. Horizontally mounted motor and correct distribution of weight afford truly balanced operation. Four Sizes: 11, 13, 18, and 21-inch brush diameter. For consultation, free floor survey, or literature, phone or write nearest Finnell branch or Finnell System, Inc., 3500 East 80, Elkhart, Ind.

THIS ONE MACHINE
- Applies Wax
- Polishes
- Steel-Wools
- Wet Scrubs
- Shampoos Rugs
- Dry Scrubs
- Sands
- Grinds

FINNELL SYSTEM, INC.
Pioneers and Specialists in
FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES

▼ FREE!—Identify by IEN-4297 if you write the maker ▼

NEW MEAD INDUSTRIAL AIR POWER CATALOG Ready!

Full of Suggestions for **FASTER, CHEAPER PRODUCTION!**

Contains sketches for Cylinders, Vises, Air Operated Presses, Foot Clutch Operated Drill Press Heads, Work Feeders, Timers and automatic combinations, etc.

Write for Complete Catalog

MEAD SPECIALTIES COMPANY

▼ FREE!—Identify by IEN-4301 if you write the maker ▼

FREE SANITARY SURVEY!

Let your Dolge Service Man make a complete sanitary survey of your premises with a view to helping achieve more effective, efficient, economical maintenance.

Send for Booklet No. 12

The C. B. DOLGE CO.
WESTPORT, CONNECTICUT

▼ FREE!—Identify by IEN-4304 if you write the maker ▼

cut costs on every cleaning job with

cold steam

- ✓ no back splash
- ✓ blasts stubborn dirt
- ✓ harmless to finest finish

HYDRO-AIR PRESSURE WASHER **$9.95**

Connects to regular air and hot or cold water supply. Precise control of air and water blasts heavy dirt and grease in cases, sheets and small parts with a penetrating spray. Especially effective for metal and food processing, maintenance and repair, and greasing and paint shipping departments.

Order through your supplier or direct. Washer will be sent post paid.

D & M Products, Inc., 438 S. Western Ave., Los Angeles 5, Calif.

▼ SAFETY—Identify by IEN-4305 if you write the maker ▼

MAINTENANCE TIME COSTS MONEY

Why do things the hard way? SAVE hours of labor in machine and maintenance shops by using Tasgon — the quickest, most penetrating rust solvent on the market. Tasgon works its way into the tightest joints . . . a few drops quickly free nuts, bolts, couplings, or connections of any sort, frozen with rust. Tasgon also dissolves gummed-up oil, tar, paint . . . cleans and lubricates contact surfaces.

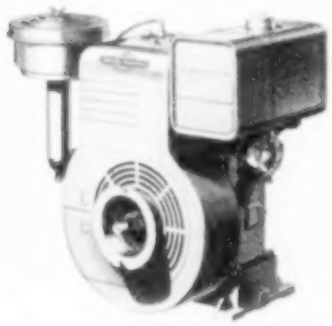
Write today for FREE sample and complete information.

Samuel Cabot, Inc.
555 Oliver Building,
Boston 9, Mass.

TASGON

▼ SAFETY—Identify by IEN-4306 if you write the maker ▼

Compact... and TOUGH



Designed right — then built right — for the toughest kind of service, year after year.

Briggs & Stratton 4-cycle, single-cylinder, air-cooled gasoline engines are produced by an organization with over 30 years of engineering and manufacturing experience gained during the building of more than 4½ million air-cooled engines.

BRIGGS & STRATTON CORP.
Milwaukee 1, Wisconsin, U. S. A.

4 CYCLE BRIGGS & STRATTON GASOLINE ENGINES

▼ SAFETY—Identify by IEN-4308 if you write the maker ▼

STEAM TURBINE . . Single stage, to 2,000 hp., for mechanical drive

Source: DeLAVAL STEAM TURBINE CO.
851-5 Nottingham Way, Trenton 2, N. J.

Three sizes are included in this new Type CP line of steam turbines. Wheel diameters are 16, 20 and 24 inches. Ratings are to 600, 1,000 and 2,000 hp. Maximum inlet pressure is 1,200 lb. with initial temperature to 800 deg. F. Back pressure is to 200 pounds, speed is governed at 3,600 rpm, except in the 600-hp unit. It can be run at 7,200 rpm, when pressure is not more than 150 pounds. Height from floor to shaft center is 40½, and 50 inches.

Casing, packing glands and bearings are split in the center for easy removal. The rotor, shaft seals and bearings can be inspected without disturbing the pipe connections. No gaskets are required to seal the casing joints. A feature of the construction is in the labyrinth seals on the shaft on both sides of the central wheel. These seals consist of shaft grooves and mating tongues of spring-backed stationary steel. The horizontally split segments are held in T-slots. Gland segments are added for service involving high back pressures.

Bulletin 1215, 8 pages, presents a rephrased section view with explanation of the construction and operation including control or speed governor, throttled governor, governor screen and governors subject to specification.

▼ SAFETY—Identify by IEN-4309 if you write the maker ▼

PAINTING . . Pressure feed brush is controlled at valve in the handle

Source: HANLON & GOODMAN CO.
4-12 Riverside Ave., Belleville 9, N. J.

Stream-Flo is a new design of paint brush in which a small inner brush receives paint through a valve from a pressure source and distributes it to conventional bristles in the outer main brush. Applications is with any pressure equipment normally employed to deliver paint from a container to a spray painting gun.

The company is in limited production at present, can supply a 2½ in. oval brush or 3 in. by 4½ in. flat brush. List price is $30 to $35. Connection is angle at the handle end.

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 36

▼ SAFETY—Identify by IEN-4310 if you write the maker ▼

No. 5621 FIRM-GRIP
No. 5615 SMOOTH
LENGTH: 14 inches
GAUGE: .045-.055
COLOR: Brown
SIZES: 10-11-12

The outstanding value and hand safety specification throughout industry. Heavy gauge, steam cured, high age-resistance and exceptional durability with extra heavy reinforcement at points of wear. Long and short gauntlets in heavy and lighter gauge styles with all-over smooth surface also available in genuine neoprene latex.

*Request sample and quotations.

SEIBERLING LATEX PRODUCTS COMPANY
AKRON 9, OHIO

▼ SAFETY—Identify by IEN-4311 if you write the maker ▼

▼ SAFETY—Identify by IEN-4312 if you write the maker ▼

SPRACO NOZZLES

Write for NOZZLE CATALOG to
SPRAY ENGINEERING CO.
110 CENTRAL STREET • SOMERVILLE 45, MASS.

▼ SAFETY—Identify by IEN-4313 if you write the maker ▼

Preferred for
PEAK PERFORMANCE
15 to 30 H. P
V-Type
Four-Cylinder
WISCONSIN
HEAVY-DUTY *Air-Cooled* **ENGINES**

On power jobs that call for rugged serviceability and sustained operation in the 15 to 30 hp. range, Wisconsin 4-cylinder engines rate first preference on the basis of such features as:

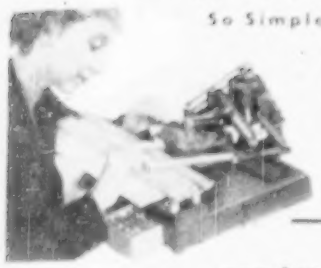
Trouble-free Air-Cooling at all temperatures from sub-zero to tropical highs; tapered roller bearings at BOTH ends of the extended crankshaft to take up all thrust and radial loads (also internally self-cleaning); rotary type, high tension OUTSIDE Magneto equipped with Impulse Coupling for quick starting in any weather and sure firing on the job; individual oil streams to each connecting rod (other parts lubricated by oil spray) assuring complete and thorough lubrication at all times.

V-type design permits a shorter crankshaft and less height than with a "straight in-line" engine, resulting in more compact power unit.

4-cycle single cylinder models, 3 to 9 hp., and 2-cylinder models, 7 to 13 hp., also available. Detailed data on request.

WISCONSIN MOTOR CORPORATION
World's Largest Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 14, WISCONSIN

▼ BRIEFITS—Identify by IEN-4314 if you write the maker ▼



So Simple Anyone can

ENGRAVE

on Plastic and Metal

new hermes

Engrav-o-graph

PANELS — DUPLICATOR

INSTRUMENT KNOBS

DIALS

NAME PLATES

SAVINGS BANK LIFE INSURANCE

- Multistate Tracing Arm. Engraves more than 15 sizes from ONE template.
- Covers a larger engraving area than any other portable unit of it's kind.
- Ideal for inlay lettering.

Send for Booklet Model 2M

NEW HERMES, INC

Dept. No. 21

13-19 UNIVERSITY PL. N.Y.C., N.Y.

World's Largest Manufacturer of Portable Engraving Machines

▼ BRIEFITS—Identify by IEN-4315 if you write the maker ▼

STOP THIS

WITH A *Standard*

UTILITY BELT-VEYOR

LIFT OR LOWER—FLOOR TO FLOOR OR CONVEY HORIZONTALLY

Move boxes — cartons — crates — sacks and bundles from basement to first floor, or any floor to floor, or convey in a straight line — continuously with the Standard UTILITY BELT-VEYOR. A compact, pre-engineered unit, easy to install (over existing stairways where practical) handles commodities up to 150 lbs. — available in 4 belt widths — 10, 14, 20 and 24 inch — and equipped with adjustable guard rails to facilitate handling packages wider than belt. Electric motor operated. Write for Bulletin IEN 50.

Standard Conveyor Company
North St. Paul
Minnesota

Sales and Service in Principal Cities

Standard

GRAVITY & POWER CONVEYORS

▼ BRIEFITS—Identify by IEN-4316 if you write the maker ▼

Here's Your Answer To Any Wire Rope or Chain Fitting Problem!

Laughlin's 1948 Catalog-Data Book Tells You *The Right Fittings For Your Job Instantly*

A complete collection of practical data — you'll save hours of engineering, designing, drafting, buying. It costs you only 3 cents per copy. Write today.

LAUGHLIN

FREE!!! Send the coupon — no cost or obligation

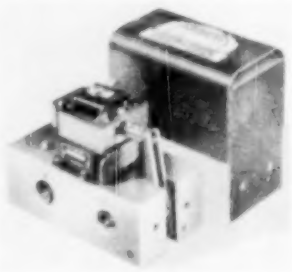
THE THOMAS LAUGHLIN CO.
Dept. 51 Portland 3, Maine

Name
Address
City State

▼ BRIEFITS—Identify by IEN-4317 if you write the maker ▼

VALVE . . Four-way pneumatic with solenoid actuated pneumatic pilot

Source: GALLAND-HENNING MFG. CO.
2760 S. 31st St., Milwaukee 15, Wis.



Small solenoid is mounted on the pneumatic housing of this new Ring Type valve so that company's Nugak line to operate a pilot. The pilot, in turn, admits air to exhausts air from one side of the operating piston so the valve will move from full open to one position or full open to the other. When the solenoid is de-energized the plunger is returned mechanically to its neutral position, thus pressure is on one or the other of two cylinder ports at all times.

The valve can be installed in any position. It will operate when submerged in oil. Pressure range is 40 to 250 pounds. Port size is ¼ inch. The 3-way housing measures approximately 6 by 4 by 3½ inches. Inlet and exhaust are on one side and the two cylinder ports on the other. Neoprene O-rings provide the required sealing action. The solenoid can be energized for holding action or for as many as 500 reciprocations per minute.

▼ BRIEFITS—Identify by IEN-4318 if you write the maker ▼

HEAT TREATING . . Quenching oil for operation at 300 to 500 deg. F.

Source: PARK CHEMICAL CO.
8072-5 Military Ave., Detroit 4, Mich.

Does not affect furnace atmosphere

Thermo-Quench is a new oil light green in color, for use as a case-quenching and carburizing furnaces. The oil is stable and resistant to oxidation in its operating range. Flash point is at 500 deg. F. Viscosity is 150 seconds at 210 deg. F.

▼ BRIEFITS—Identify by IEN-4319 if you write the maker ▼

DRILLING . . Portable electric tool, ½ in. in steel, right-angle head

Source: MILWAUKEE ELECTRIC TOOL CORP.
5314-18 W. State St., Milwaukee 8, Wis.

S-112 is a new portable electric drill with aluminum housing and ½ hp. universal motor for operations at 1,150 rpm. at 115 volts a.c. or d.c. Its ball bearing spindle is threaded to take a ½-in. chuck or a right-angle adapter head. This head is a geared unit with a 2 to 1 ratio. Thus the tool can provide three speeds. These are 450 rpm. at the tool spindle, 800 rpm. with the angle head in one position, 675 rpm. when it is reversed. The assembly measures 15 in. in overall length and weighs 9 pounds. List is $60.

All Makers of Parts And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 50

▼ BRIEFITS—Identify by IEN-4320 if you write the maker ▼

GET LONGER BELT LIFE with . . .
Belt Saver Pulleys
—— identified by the unique cone and wing design — exclusive with Sprout-Waldron

Its self-cleaning action is ideal for the handling of sand, gravel, limestone, fertilizer, salt, or any other hard, abrasive materials.

Only with Sprout-Waldron BELT-SAVER Pulleys can you expect belt life increases from 50 to 400%. Get full details on the BELT-SAVER as well as on the complete line of S-W "Blue Face" Cast Iron Pulleys today!

• WRITE FOR LITERATURE •

SPROUT-WALDRON & COMPANY
Manufacturing Engineers
5 WALDRON STREET MUNCY, PA.

▼ BRIEFITS—Identify by IEN-4321 if you write the maker ▼

Sound Packaging — an Important Link . . .

If you strive for higher productivity at lower cost study your handling and packaging operations. Experienced engineers say 50% of all productive labor in many products of industry today is occupied in handling and packaging. When labor costs make such claims it's time to apply adequate cost control measures. Plan wisely — apply well — unite your plant, equipment and personnel into one smooth operation. Where volume packaging is done weighing units are necessary for uniformity. They can usually fit the job. The fact that EXACT WEIGHT scales are at work in more than 34 major industries on thousands of production lines from simple semi-checkweighing to fully automatic machine operations is evidence, we believe, of their value in those industries. Write for full details for your business.

EXACT WEIGHT SCALES

Industrial Precision

THE EXACT WEIGHT SCALE COMPANY
130 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 19, Canada

▼ BRIEFITS—Identify by IEN-4322 if you write the maker ▼

FORGET THESE TROUBLE SOURCES

- COMPLICATED DESIGN
- DETERIORATION OF POINTS
- FAULTY MAKE AND BREAK
- INSULATION FAILURE
- EXCESSIVE WEAR POINTS
- CORROSION TROUBLES

. . . when you *specify* SNAP-LOCK TRADE MARK

HEAVY DUTY LIMIT SWITCHES

Check these Snap-Lock superior design and construction features. They will bring you dependable, trouble-free limit switch performance:

- ✓ SNAP make and break
- ✓ Pure silver self-wiping contacts
- ✓ Positive locking, either on or off—can't stop on dead center
- ✓ Separate sealed electrical and mechanical sides
- ✓ Hardened steel moving parts; forged levers

But Snap-Lock superiority doesn't stop there. Snap-Lock engineering service is an important part of the finished package. We gladly analyze a customer's needs, recommending the exact unit to save space, eliminate expensive mechanical contrivances and insure trouble-free switch performance.

That service costs you no more—but it will save you time and money. Let us function as your switch design department.

Regular Style

Push Lever Style

Explosion & Water Resisting

Neutral Position and Short Travel Styles also available

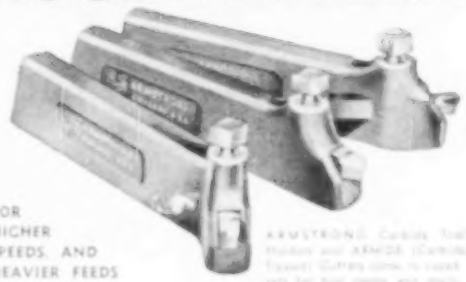
ELECTRICAL MANUFACTURING DIVISION

THE NATIONAL ACME CO.

CLEVELAND, OHIO

▼ BRIEFLY—Identify by IEN-4324 if you write the maker ▼

ARMSTRONG *Carbide* TOOL HOLDERS



FOR HIGHER SPEEDS AND HEAVIER FEEDS

ARMSTRONG Carbide Tool Holders and ARMCO (Carbide Tipped) Cutters come in stock sets for tool rooms and maintenance departments, and in dividuals in all sizes for general machine shop and production turning. They permit not only the faster machining of semi-fired castings, the hardest and toughest steels as well as many heretofore "unmachinable" materials, but also make practical much heavier cuts and cutting speeds up to 400 f.p.m. on ordinary work. They give cut from 10 to 100 times as long between regrindings.

Write for Catalog

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
5241 W. ARMSTRONG AVE., CHICAGO 30, U. S. A.
NEW YORK SAN FRANCISCO

▼ BRIEFLY—Identify by IEN-4325 if you write the maker ▼

FLOATING PYRAMID GEARS
THE PATENTED ANSWER TO TODAY'S DEMANDS ON SPEED REDUCERS

Load distribution that is not only equal to begin with but remains self-equalizing during years of wear! That's the promise, and the practice, of Winsmith's Patented Differential Speed Reducers.

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CLEANING . . . "Wheelabrator" blast equipment to finish molded plastic parts; descriptive catalogue. Bulletin CL-1, 4 pages. American Wheelabrator & Equip., 11 S. Byrkit, Mishawaka, Ind. IEN-4315

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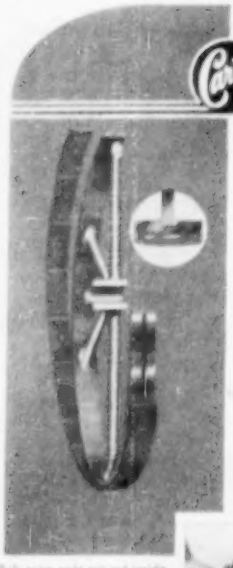

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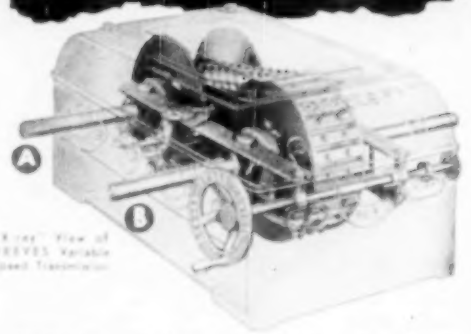

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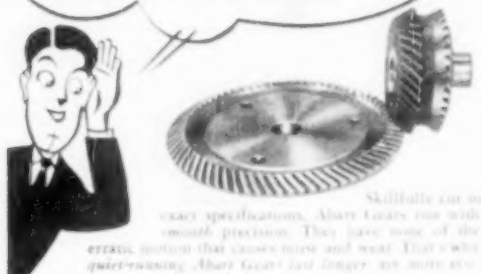

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CONVEYING . . . Monorail track, switches, cranes, trolleys, accessories; data summaries. Bulletin B, 16 pages. Industrial Monorail & Conveyor Co., 1917-21 Harlan, Philadelphia 21, Pa. IEN-4023

CONVEYING . . . "Coalmaffle" belt conveyors for bulk material; engineered details, selection data. Catalog 402, 52 pages. Pioneer Eng. Works, 1915-37 Central, Minneapolis 13, Minn. IEN-4024

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CORROSION PROOFING . . . "Chemseal" glass fiber fabric to corrosion proof pipe; details. Booklet CPFAI, 20 pages. Owens-Corning Fiberglas, 100 Nicholas Bldg., Toledo 1, Ohio. IEN-4026

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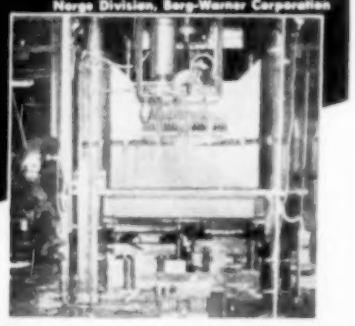

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ELECTRONIC TUBES — Characteristics, ratings, and basing arrangements for receiving tubes, 32 pages, RCA Tube Handbook HR-12, Radio Corp. of America, Harrison, N. J. IEN-4328

ENGINES — Diesel engine for industrial applications, completely described, illustrated, specifications, 4 pages, Cummins Engine Co., Columbus, Indiana IEN-4329

ENGINES — Diesel engines, 4 cyl., 6 cyl., 8 cyl., 4 pages, Continental Motors Corp., Muskegon, Mich. IEN-4330

FASTENINGS — Electric cable anchors for securing support of metal frame construction, 4 pages, illustrated, Elastic Stop Nut Co., 1027-33 E. 1st Ave., Chicago 4, Ill. IEN-4331

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GLASS WORKING — Equipment and supplies for glass blowing, also glass tube, rod, points, etc., Catalog 50, 50 pages, illustrated, 1950 Glass Apparatus 50 Anniversary, Bloomfield, N. J. IEN-4055

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

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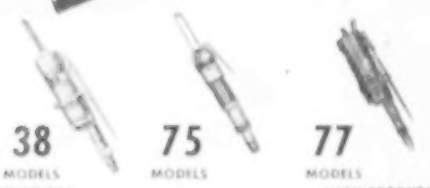

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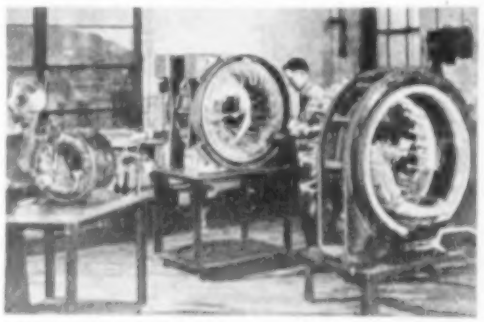

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A mower owner recently learned what Allis-Chalmers Co-operated Service really means! When a vital 75 hp motor had an insulation failure, Chicago District A-C Certified Service Shop was called. In just 2 hours the motor was completely repaired and back on the line!

You get this kind of service from over 80 A-C Certified Service Shops in every major industrial area . . . service that meets factory standards in quality parts and workmanship. For new motors or controls, too, see your nearest A-C Certified Service Shop or Authorized Dealer.

A-1050

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ALLIS-CHALMERS

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Only Kalamazoo gives you "full view" cutting action. Operator looks directly down into cut . . . for a constant check on cut-off accuracy. This is one of many exclusive Kalamazoo features for fast, accurate, low-cost cutting of angle iron, tubes, bars, pipe. Sturdy rugged, portable. 8 Timken bearings. 10 second blade changes. No floor. Minimum shop space. Write today for full details on the Kalamazoo.

NEW LITERATURE—Continued

"Also see News Notes, page 71 this issue"

GRINDING — Wheel dresser for radius, tangent and angle work; operation; typical wheel forms. "Profile Dresser." 4 pages. Cohoes Tool Co., 1008-40 McCartney St., Easton, Pa. IEN-4034

GRINDING — Cross-type motor-driven wheel dresser; dimensions; typical shapes produced. "Wheel Dresser." 2 pages. Jacobs Machine Co., 330-337 3rd St., Chagrin Falls, Ohio. IEN-4035

GRINDING — Type CB 12-in. universal hydraulic cylindrical machine; design details, specifications. Catalog I-D. 24 pages. Landis Machine Co., 20 E. Ninth St., Waynesboro, Pa. IEN-4036

HANDLING — Drum-trailer truck; capstand assembly view. Illustrated tipping method. Mailing piece. "Tips Service." 2 pages. Mosier Mfg. Co., 150-24 Dickerson St., Riverdale 71, N. Y. IEN-4038

HOISTS — General-purpose units, 1,500 to 4,000 lb. single line pull; specifications. Catalog 100 H-49. 32 pages. American Hoist & Derrick Co., 63 E. Russell St., Post 1, Minn. IEN-4040

LATHES — Miniature bench units for small parts; motor drives, attachments, tools. Bulletin F. 4 pages. Lucas Lewis & Son, Inc., 780-91 E. Vista Blvd., Los Angeles 11, Calif. IEN-4041

LIGHTING — "Fluorstat" light dimming components; outline, ratings, connection diagrams. Bulletin 146. 12 pages. Superior Electric Co., 40 Hazelton Ave., Bristol, Conn. IEN-4042

MACHINING — Contract service for moulding, grinding, profiling, illustrated facilities, examples. "Precision Manufacturing." 4 pages. Acme Industries Co., 200 N. Lafayette, Chicago 7, Ill. IEN-4043

MACHINING — Contract service for metal parts; facilities, examples, size details of castings. "Job Shop." 16 pages. Superior Steel Products Co., 200-21 Lancaster, Bethlehem, Pa. IEN-4044

MARKING — Illustrated folder on a variety of types; metal plates, dial plates, specialties suggestions. Catalog 51. 32 pages. Rowles Stencil Tool Co., 138-12 W. 32nd St., New York 10, N. Y. IEN-4045

METERS — Recorder-controllers for gases for liquids and gases; operation, construction, ranges. Catalog 25. 32 pages. Foxboro & Foster Co., 301 Cocasset Line Road, Hatboro, Pa. IEN-4046

METERS — Model 600-A non-clog capacity measurement; construction, characteristics, many details. Bulletin 200. 4 pages. Hydril Flow Instrument Co., 2500-40 Dominguez Extension, Compton, Calif. IEN-4047

METERS — Block diagram of control panel instruments; design details, performance data. "Engineered." 12 pages. Manning Electric Corporation Co., South 30 Joliet, Schenectady 6, N. Y. IEN-4048

METERS — "Rotameter" types; how it works, operating principles, materials selection data, models. Bulletin 10-B(MA). 32 pages. Schutte & Koerting Co., 1400 N. 23rd, Philadelphia 30, Pa. IEN-4049

MICROSCOPES — Monocular and binocular laboratory units; designs, construction details. Catalog 63-MC. 36 pages. Bausch & Lomb Optical Co., 640-T St., Rochester 2, N. Y. IEN-4050

MIXING — Blade-type impellers for tanks for paints and process materials; design points. Engineering Data Sheet 1-D. 4 pages. Patterson-Kelley Co., 20 E. Stroud St., Chambersburg, Pa. IEN-4051

MOTORS — Large ac to 5 hp; controls, wiring diagrams; types, construction, examples. Bulletin 50. 32 pages. Electric Machinery Mfg. Co., 1000 Tyler, Minneapolis 13, Minn. IEN-4052

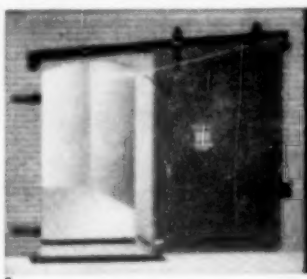
PAINTING — Silica graphite paints for chemical water tanks; preparation, application methods. Bulletin 2-A. 4 pages. Joseph Dixon Crucible Co., 108-9 Wayne St., Jersey City 3, N. J. IEN-4053

PAINTING — Primer and one coat for exposed outdoor metal surfaces; properties, uses. "Rust-Oleum." Booklet. Industrial Rust-Oleum Co., 2301 Oakton, Evanston, Ill. IEN-4054

PAPER — Silicone coated paper and adhesive to resist adhesive materials; descriptions, samples. "Release Papers." Booklet. Technical Paper Corp., 260 Cambridge Ave., Cambridge 40, Mass. IEN-4055

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30

▼ Literature offered by IEN - 4349 If you write the maker ▼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Metal-clad or Kalomine doors, installed with Coburn Fire Door Hardware, reduce fire hazards, and lower insurance rates.
Coburn Fire Door Hardware is made to specifications of The National Board of Fire Underwriters and, where necessary, bears the U. L. I. label. Special sets available for single and double incline or level slide doors; single and double swing doors; vertically operated doors. All equipped with automatic self-closing devices. Write for catalog #210 showing full line of hardware, charts showing required headroom, wall space and other information.
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WITH HYPRESSURE
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STEAM CLEANER
IT'S 10 TIMES FASTER THAN HAND-CLEANING
HYPRESSURE JENNY CLEANS — Machinery · Conveyors · Engines · Transformers · Hoists · Trucks · Tank Cars · Cranes · Shafts · Belting · Compressors · Buildings · Floors · Walls · Windows · Etc., Etc.
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AN ATOMIC EXPLOSION WILL DESTROY...
BUT TRAFFIC will never mar A FLASH-STONE EMERITE FLOOR!
Flash-Stone EMERITE flooring is the most wear-resistant traffic surface floor known in the construction field today! Emerite floors are hard rust-free, non-cracking!
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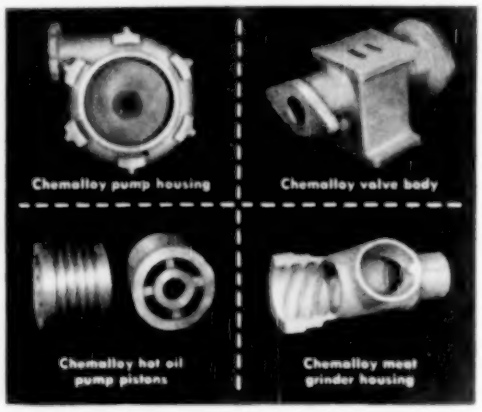
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Chemalloy valve body
Chemalloy hot oil pump pistons
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Chemalloy is not just one alloy, but a group of alloys . . . each developed to combat certain corrosive conditions. Wherever your corrosion problems require stainless, Ni-Resist* or other high alloys, investigate Chemalloy. Write for Bulletin T-171. Electro-Alloys Division, 1946 Taylor Street, Elyria, Ohio.
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AIR ARBOR PRESSES
STAKING
Air or Spring Return
RIVETING
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1 TON
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A PRACTICAL range of sizes adaptable to an almost unlimited variety of uses in shop or factory. Air pressure can be regulated to give uniform pressure on each application . . . "just enough" effort to do the job without the danger of damage to the work, or the variations that may result from uncontrolled human effort.
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NEW MAGNETIC SWEEPERS CLEAN FLOORS; RETRIEVE IRON PARTS FROM TANKS

Eriez Manufacturing Company, 38 East 12th Street, Erie, Pa.

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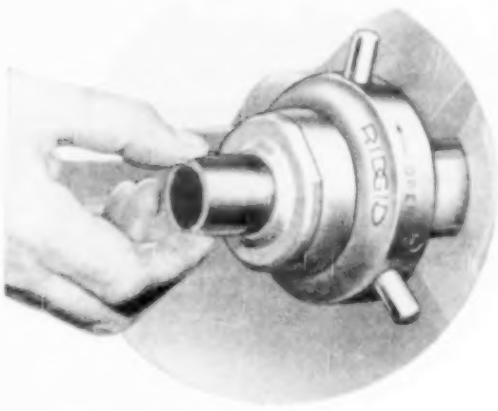
Extra-Easy Threading OF SHORT NIPPLES



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New RIDGID Nipple Chuck fits any threading machine, power drive or vise

● Typical RIDGID worksaver advantages in this new nipple chuck—to speed every short nipple threading job! Fits any threading machine, power drive or vise—no special tools, parts or adjustments. No adjusting or changing of stop plug—it's an integral part of nipple chuck—automatically in position for use. Threading nipple is released instantly by turn of nipple chuck—easily unscrewed by hand. Pipe adaptors for ¼" to 1½", chuck takes 2" pipe. Ask for this new efficient nipple chuck at your Supply House.

FREE Patented Carrier for any set

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WORK-SAVER PIPE TOOLS
THE RIDGE TOOL CO. • ELYRIA, OHIO

NEW LITERATURE—Continued

"Want these for your catalog file?"

PERFORATED METAL — Illustrated general catalog of perforated metals, metal lath, screening, grating, etc. 48 pages. Harrington & King Perforating Co., 5655 W. Fillmore, Chicago 44, Ill. IEN-4351

PIPE — Illustrated folder tells and shows competitive quality pipe, threading, reaming, bending, flaring, etc. 4 pages. Merit Pipe & Tube Industries, Inc., 40-48 W. 25th St., Cleveland 13, O. IEN-4352

PIPE — Fundamentals of industrial pipe. Gives methods for calculating pressure losses, sizing, etc. 28 pages. Illustrated. Ill. Data. Crane Company, Chicago, Ill. IEN-4353

PLASTICS — Bulletin and "Plastics" magazine and technical publication, explains properties, uses, forming methods, etc. 32 pages. Free. Plastics Division, Fiberloid Corp., Irvington 11, N. J. IEN-4354

PLASTICS — Describes Kralastic sheet, rod, tube, extruded film, molded parts, etc. Gives properties, uses, fabricating methods, etc. 4 pages. Free. Bakelite Corporation, 30 East 42nd St., New York 17, N. Y. IEN-4355

POWDERED METAL PARTS — Illustrated folder describes and illustrates 20 functional parts made of iron-base metal powder. Contains 4 pages. Wico Metal Products Co., 5959 Dunham Rd., Maple Heights, O. IEN-4356

PRINTING — 200-page illustrated catalog of printing inks for paper, cloth, cellophane, foil, etc. Gives properties, uses, etc. 200 pages. Printed Free. Sinclair & Valentine Co., 611 W. 129th St., New York 27, N. Y. IEN-4357

PROCESSING — Booklet describes processing equipment for paper, textiles, plastics, etc. Illustrates and describes typical installations. 12 pages. Free. Farrel-Birmingham Co., Inc., Ansonia, Conn. IEN-4358

PROCESSING — Booklet describes processing equipment for paper, textiles, plastics, etc. Illustrates and describes typical installations. 12 pages. Free. Farrel-Birmingham Co., Inc., Ansonia, Conn. IEN-4359

PROTECTING — Booklet describes paints for protection against corrosion, abrasion, weathering, etc. Gives formulas. 28 pages. Free. Dearborn Chemical Co., 310 S. Michigan Ave., Chicago 4, Ill. IEN-4360

FUMES — Booklet describes process for removing fumes, dust, etc. from air. Illustrates typical installations. 8 pages. Free. Research Corporation, 405 Lexington Ave., New York 17, N. Y. IEN-4361

FUMES — Booklet describes process for removing fumes, dust, etc. from air. Illustrates typical installations. 8 pages. Free. Research Corporation, 405 Lexington Ave., New York 17, N. Y. IEN-4362

PYROMETERS — Data File Folder with temperature and pressure conversion charts, tables and graphs. Reference information. Free. Bell & Gossett Co., Morton Grove, Ill. IEN-4363

RECTIFYING — Illustrated folder describes new germanium rectifier for 6 to 12 volts dc. Gives specifications, ratings, etc. 4 pages. Illustrated. Free. Sarkes Tarzian, Inc., 415 N. Walnut, Bloomington, Ind. IEN-4364

REFRIGERATING — Engineering bulletin for automotive and diesel air conditioning equipment. Gives ratings, etc. Illustrates. 24 pages. Free. Frick Co., 520 Breckbill, Waynesboro, Pa. IEN-4365

RELAYS — Booklet describes sealed thoroughly tested and inspected relays. Illustrates typical applications. Catalog 5-R. 12 pages. Guardian Electric Mfg. Co., 1625 W. Walnut, Chicago 12, Ill. IEN-4366

RHEOSTATS — Bulletin describes wirewound potentiometer rheostats for instrumentation, aviation, voltage regulation, etc. 12 pages. Illustrated. Free. Ohmite Mfg. Co., 4835 W. Flournoy St., Chicago 44, Ill. IEN-4367

ROCK DRILLING — Folder describes and illustrates 3 models for air line feed, pneumatic stopping. Includes Models JE-1350, 3 pages. Gardner-Denver Co., Quincy, Ill. IEN-4368

ROCK DRILLING — Illustrated folder describes and illustrates 3 models for air line feed, pneumatic stopping. Includes Models JE-1350, 3 pages. Gardner-Denver Co., Quincy, Ill. IEN-4369

ROOFS — Illustrated booklet describes and illustrates roofing, siding, insulation, etc. Includes ASTM specifications. 32 pages. Free. Johns-Manville, 22 East 40th St., New York 16, N. Y. IEN-4370

All Makers of Items And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — Are Page 10

▼ Bullet—Directly to IEN-4355 ▼

The **FLEX V** Belt Fastener for A and B Belts of open end construction

Size No. A180 for A Belts
Size No. B214 for B Belts

Flex V fasteners are made in two sizes for joining A and B V belts of special open-end cross section. Effect construction and on drives could as light duty with a belt speed of not over 5000 feet per minute. The fasteners must not be used on heavy duty or high speed drives or for joining or repairing V belts that were originally endless.

Flex V fasteners are easy to apply with the special application tool. The separable hinge pivot makes for quick replacement of V belts without dismounting shafting or machinery. Flex V fastened V belts can also be run on V Flat Drives for there is no metal on the under side of the belt to contact the flat faced pulley.

Folder No. V-11 gives complete details on this Flex V fastener with list prices, special tools and application information. Your request will bring a copy.

Order from your supply house

FLEXIBLE STEEL LACING CO.
4610 LEXINGTON ST., CHICAGO 44, ILLINOIS

Also sole manufacturers of Alligator Steel Belt Lacing for flat transmission belts, Alligator V-belt Fasteners for V-belts and Flexco HD Belt Fasteners and Rip Plates for fastening and repairing conveyor belts.

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The **COP** Stops Trouble . . . before it starts

it will pay you to standardize on Sylvania COP — the starter that cuts lamp lamps out of circuit immediately before they can cause trouble. This manual reset starter affords insurance against excessive starter wear, ballast burnouts, and the many other money-consuming effects of ballast-cut lamps.

Sylvania COP is the only cut-out starter using two wire heated contacts in the all-glass tube — a construction that means extra starting speed, extra reliability, extra conformity to your requirements. And the COP contributes no power to maintaining an open circuit condition. The circuit remains open until the starter is manually reset.

These easily long life COP starters are the result of years of Sylvania's experience and skill in fluorescent lighting. Send for full technical details today! Sylvania Electric Products Inc., Advertising Dept. L-1401, 1740 Broadway, New York 19, N. Y.

SYLVANIA ELECTRIC

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black-on-white **COPIES** or colored copies of anything typed, written or drawn . . .

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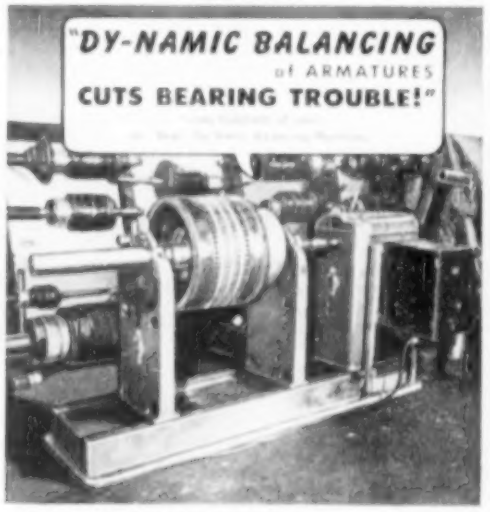
"DY-NAMIC BALANCING of ARMATURES CUTS BEARING TROUBLE!"



INVESTIGATE THE "BEAR" METHOD. If Dy-Namic Balancing of rotating parts is a stranger to your plant, Find out how this proven technique reduces wear of vibration, chatter, eliminates noise, increases efficiency of finished products!

Write for "Dy-Namic Balancing Manual 1951-A"!

See Ad's in Sect. I-S, Sect. I-M, Sect. II

"BEAR"
STATIC AND DY-NAMIC BALANCING MACHINES

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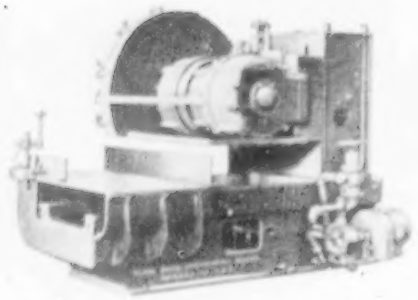
CUT WITH **KLING** HIGH SPEED FRICTION SAWS

WITHOUT CHANGE OF BLADE OR SET-UP

CUTS VARIED STRUCTURAL SHAPES—SOLID BARS OR TUBING



HERE'S THE RECORD: Cuts 18" dia. C. Steels 12 sec. ... 2" x 2" x 1/4" L. 11 Bars 4 sec. ... 4" dia. Rail 4 sec. ... 4" x 4" x 1/2" Angle 10 sec. ... 8" Round Bar 15 seconds. Consult Kling engineers regarding your duty cutting problems. State size of material to be cut. Bulletin No. 500 giving full particulars and suggestions as to the type and size of saw will be mailed promptly, no obligation.

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ENGINEERED SHIPPING CONTAINERS . . .

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TO MEET YOUR SPECIFIC PACKING NEED

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GENERAL BOX COMPANY . .
★ ★ ★ ★ ★ engineered shipping containers
GENERAL OFFICES: 508 N. Dearborn St., Chicago 10, Ill.
DISTRICT OFFICES AND PLANTS: Cincinnati, Denville, N. J., Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Sheboygan, Winchendon, Continental Box Company, Inc., Houston, Dallas
General Box Company of Mississippi, Meridian, Miss.

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gives ordinary water greater fire extinguishing power

new Rockwood Type SG-48 WaterFOG Nozzle

Rockwood type SG-48 WaterFOG Nozzle discharges 15 high velocity water fog (2 straight streams of low velocity water). Thus, it penetrates any other fog system, covering an entire high or low wide geometry for an unusual fire fighting success. The nozzle provides greater protection and fire fighting efficiency for your hazard.

Recognized by Underwriters Laboratories, Inc. and Factory Mutual Laboratories. Write for Bulletin 5-WFN.

ROCKWOOD SPRINKLER CO.
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NEW LITERATURE—Continued

"No wordy frills, just essentials"

SAWING — Portable power hacksaw machine, 36 hor. stroke/min. specifications, sawing operations. Hand 4 pages. Light Electric Corp., 444 E. Fourteen St., Wilmington 4, Del. IEN-4036

SCAFFOLDS — Folding steel scaffolds, sash jacks, ladder brackets, accessories. Bulletin. Metropolitan Engineering Co., 2300 Walden Road, Cleveland 12, Ohio. IEN-4037

SEALING — Molded packings in compressible plastic and elastomer materials, properties, applications. Bulletin 101. 4 pages. Garlock Packing Co., 400 N. Broad St., Philadelphia 8, Pa. IEN-4038

SEALING — Circular compression rings to seal contoured metal plates in Tee fashion. Open, Inc., Bulletin 101. 4 pages. Fabri-Form Products Co., Box 4005-A, Philadelphia 34, Pa. IEN-4039

SEPARATING — Data for operation and set up of magnetic separators. Bulletin. "Sta-Pul." 4 pages. Stearns Magnetic Products Co., 108 Mitchell St., Rochester 14, N. Y. IEN-4040

SEPARATING — Data on magnetic metal and ore drum separators and coal pulverizer magnets. Catalog. "Dings Magnetic Separator Co., 4740 W. Electric Ave., Milwaukee 46, Wis. IEN-4041

SHIPPING — Wirebound boxes and crates, specs on use, cost, applicable packages for shipping. General data. 8 pages. Container Box Co., 520 N. Dearborn St., Chicago 10, Ill. IEN-4042

SIGNALING — Construction and code charting instructions for remote signal systems. Bulletins 4, 5, 6, 7, 8. 4 pages each. Auditory Corp., 300-A W. 18th St., Chicago 16, Ill. IEN-4043

SIGNALING — Electronic industrial materials specifications, applications, suppliers. Bulletin 1000. 32 pages. Electronic Research Specialty, 30 E. Main St., Lancaster, Ohio. IEN-4044

SIGNALING — Electronic devices for gas location and identification, operation. Folder. "R-Meter." 2 pages. Fisher Research Lab., 1000 N. Commercial, Palo Alto, Calif. IEN-4045

SOLDERING — Liquid flux for corrosion-free soldering, specifications, applications, suggestions. Bulletin 58. 4 pages. Harris & Harrison, 90-92 Lincoln St., Boston 11, Mass. IEN-4046

STAMPINGS — Process and layout in small-size stampings of metal, uncoated, fabricated. Booklet. 16 pages. Dayton Stamping Co., 1900-1924 Ave. E., Minneapolis 13, Minn. IEN-4047

STEELS — Maintenance and fabricated structural steels, review of economics, service and facilities. Folder. 4 pages. Tennessee Coal & Iron Div., 400 T Chrysler Bldg., New York 17, N. Y. IEN-4048

STEELS — Tool steel, steels in general, for heat treated life, properties, applications. Handbook and Directory M. 4 pages. Joseph T. Ryerson & Son, Inc., Box 8000-A, Chicago 80, Ill. IEN-4049

STORING — Elevated wood racks for easier storage, saves de-materials, material, accessories. Bulletin 38-48. 12 pages. H. E. Caldwell Co., Brook & Brandon Ave., Louisville 4, Ky. IEN-4050

STRAIGHTENING — Machine's straightens bar, tubes, sheets, bars, automotive use. Data and specs. "Guide to Method." 4 pages. Medart Co., 100 Prospect St., St. Louis 56, Mo. IEN-4051

TESTING — Catalogue announces tests for tensile and elongation testing, properties given. "Scleroscope." 4 pages. Shore Inst. & Machine Co., 90-40 N. Lawndale, Philadelphia 40, Pa. IEN-4052

TESTING — Type PTE universal testing machine, 2 to 1,000 lb., Single definite specifications. Bulletin 500. 4 pages. Baldwin-Lima-Hamilton Works, Eddystone Div., Philadelphia 42, Pa. IEN-4053

TESTING — Ultrasonic generators, specifications for laboratory and plant plant models. "Ultrasonic Generators." 4 pages. Branson Instruments Co., 800 Perkins Ave., Stamford 14, Conn. IEN-4054

TESTING — Vibration and fatigue testing equipment, condensed data, applications, etc. Instruments, classes. Bulletin 11. 6 pages. Unitron Co., 730-50 Main St., Woburn, Mass. IEN-4055

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 58

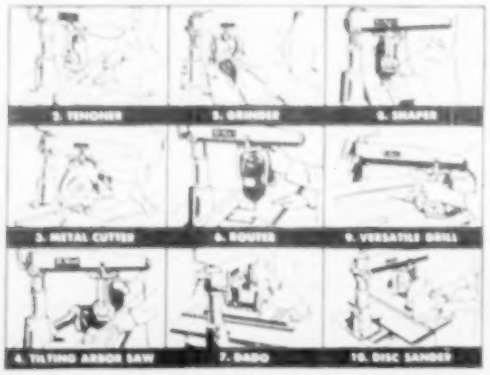
▼ Briefly—Ident. by IEN - 4362 ▼

10 POWER MACHINES IN ONE!

1. RADIAL ARM SAW

There's what you have (and more) when you invest in the all-purpose DeWALT. It's fast, accurate, safe—built for continuous operation. Write for catalog.

DE WALT INC.
101 Franklin Avenue
Lancaster, Penna.



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"NATIONAL"
SELF LUBRICATING BRONZE BEARINGS
Molded to Your Accurate Specifications

Our "DUCTILOY" bearings are made from a unique powder formula perfected by "National" Engineers that results in a bearing with properties possessed by no other bearing on the market. Our special alloy makes these bearings highly ductile and eliminates waste due to breakage at installation or from rough handling.

We are very proud of our line of cylindrical bearings and of our hard won reputation for the delivery of intricate powdered metal parts heretofore considered impossible to produce.

Applicable to all medium and light weight service such as Automobile, Electrical Appliances, Farm Equipment, Domestic Appliances such as Sweepers, Refrigerators, Washers, Portable Electric Tools, etc., and Industrial Machinery.

LET US HELP SOLVE YOUR BEARING, BUSHING AND SHAFT SEALING PROBLEMS

We are equipped to handle your requirements in any quantity

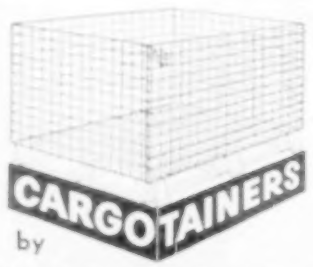
NATIONAL MOLDED PRODUCTS, INC.
Manufacturers of
Sintiloy, Ductiloy and Tubeloy Bearings
1945 MILL STREET • ST. MARYS, PA.

▼ Briefly—Ident. by IEN - 4364 ▼

among vendors to auto makers the trend is to CARGOTAINERS

One reason for the trend is that several large auto makers have already requested that vendors ship parts in collapsible welded-steel wire baskets with eight-way pallet bases. They have specifically named *Cargotainers* because they are the foremost and basic-patented product of this type. Auto makers are constantly looking for new ways to save time and money, just as you are. They have come to appreciate the value of receiving, storing, and adding products to the assembly line in *Cargotainers* . . . then easily collapsing the *Cargotainers* and sending them back to the vendor or their own intraplant supply point.

For details on how the Cargotainer system can simplify your own handling problem and save you money, write without any obligation to Pittsburgh Steel Products Company, Dept. IEN, Grant Building, Pittsburgh 30, Pa.



by
Pittsburgh Steel Products Company
Subsidiary of Pittsburgh Steel Company
Pittsburgh 30, Pa.

▼ FREE!!!—Identify by IEN-4366 if you write the maker ▼

Take the "ugh" out of tough cutting jobs!

KETT
UNIVERSAL SAW
Z-I-P-S THROUGH SHEET METAL, PLYWOOD, PLASTICS AND COMPOSITION MATERIAL!

IN the shop or on the job, here's the handiest handful of cutting power you've ever used. The Kett Saw cuts plastics and other soft material up to ¼" thick, aluminum to 3/16", and mild steel and galvanized metal up to 10 gauge, for intermittent use. No starting hole required to cut straight lines or curves of 6" radius or larger. Tough, long lasting blades are easily changed.

For complete information and action photos, write for Bulletin A-5.

THE KETT TOOL COMPANY
5 EAST THIRD STREET CINCINNATI 2, OHIO

▼ FREE!!!—Identify by IEN-4367 if you write the maker ▼

BITS
For Your Power Screw Drivers

Rugged, Tough, Uniform Hardness
Quality controlled to insure superior performance in the severe applications
Complete range of point and shank styles
Send for price list
THE DONOVAN COMPANY
Blackhawk Road Beaver Falls, Pa.

▼ FREE!!!—Identify by IEN-4368 if you write the maker ▼

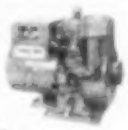
FAIRBANKS-MORSE
GENERATING SETS

You can have power wherever you need it—and as much as you need—when you take along a Fairbanks-Morse portable generating set.

Fairbanks-Morse generators are available in capacities from 600 to 25,000 watts—A.C., D.C., or all A.C. D.C., according to type.

They are widely used in resorts, cabins, sawmills, farms, radio stations, camps, ranches and many other industrial and commercial enterprises.

For complete information about a generator to meet your needs, see your local Fairbanks-Morse dealer, or mail the coupon.



FAIRBANKS-MORSE,
a name worth remembering

DIESEL LOCOMOTIVES AND ENGINES · ELECTRICAL MACHINERY · PUMPS · SCALES · HOME WATER SERVICE AND HEATING EQUIPMENT · RAIL CARS · FARM MACHINERY

Fairbanks, Morse & Co.
600 S. Michigan Ave., Chicago 5, Ill.
Please send full details about your power generating sets for portable or permanent service.
Name
Address RD
City State

NEW LITERATURE — Concluded

"Is your company's new literature listed?"

TESTING — Testing units for precision and general control of ... IEN-4601

TESTING — Color fast machine, which is of simple and fool proof ... IEN-4602

TESTING — Hardness tester, ... IEN-4603

TESTING — Instrument, ... IEN-4604

TRANSFORMERS — Distribution, power ... IEN-4605

TUBES — Water conditioning system for protecting steam, hydronic ... IEN-4606

VALVES — Three-bolt, pipe flanged, steam, hydraulic ... IEN-4607

VENTILATING — Ventilating equipment, ... IEN-4608

VENTILATING — Exhaust fans, ... IEN-4609

WEIGHING — Automatic ... IEN-4610

WELDING — Portable spot and projection machines, ... IEN-4611

WELDING — Electric welding machines with gasoline engine drive, ... IEN-4612

WELDING — Welding equipment, ... IEN-4613

WELDING — Automatic arc welding equipment, data on a wide ... IEN-4614

WELDING — Electronic control equipment for resistance weld... IEN-4615

WHEELS — Steel spoke wheels for steel tire and rubber tire ... IEN-4616

WIRE CLOTH — Commercial weaving, metal weights for press ... IEN-4617

WOOD WORKING — Catalog which would help fill in portable ...

All Makers of Items And All Other Products See Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30

▼ FREE!!!—Identify by IEN-4369 if you write the maker ▼

A NEWS ADVERTISEMENT BY REMINGTON RAND INC.

ELECTRIC TYPING VS. MANUAL TYPING

...booklet describes how Electric Typing can increase production — slash office typing costs.

Source: Remington Rand Inc., Business Machines and Supplies Division, Room 1240, 315 Fourth Ave., New York 10, N. Y.

1. Typing Station Analysis
2. Modernization of the Office
3. Higher Employee Morale
4. Typing Speed
5. Volume of Work
6. Appearance of Work
7. Ease of Operation
8. Production
9. Carbons
10. Duplicating

Based on scientific research! Obtained from users of the country's largest, most important companies. Electric Typing in Historical Perspective contains information of interest to executives in every business, large or small — and is illustrated with 30 pages of charts and easy reading. A copy of this booklet may be obtained by writing the publisher, Remington Rand, Room 1240, 315 Fourth Ave., New York 10, N. Y., or by using the Reader Service Form Section.

▼ FREE!!!—Identify by IEN-4370 if you write the maker ▼

DON'T BLOW YOUR TOP!

SAVE TIME • MONEY
PREVENT DAMAGE TO MACHINERY WITH THE . . .
CLEMENTS CADILLAC
Made in 5 models with attachments for every cleaning job.
PORTABLE COMBINATION BLOWER-SUCTION CLEANER
CLEMENTS MFG. CO.
ASK YOUR MILL SUPPLY DEALER OR WRITE US FOR DATA

▼ FREE!!!—Identify by IEN-4371 if you write the maker ▼

NEW! SUNDSTRAND SINGLE PAD PNEUMATIC SANDER

For Straight Line Sanding of Wood-Metal or Composition

$85.00

Counterbalanced Pad Movement Eliminates Vibration and minimizes operator fatigue. Machine can be guided practically with either hand, and can be left to be finished. For machine does the work, not the operator.

Check These 8 Features

1. Straight Line Pad Reciprocation — ...
2. Variable Pad Speed — governor control provides pad speed range from 1500 to 3500 oscillations per minute — permits use of ideal speed for operation on material being sanded.
3. Anti-Friction Ball Bearings — reduces friction and wear.
4. Built-in Water Attachment — conveniently wets sample for wet sanding.
5. Small and Compact — easily handled in narrow spaces.
6. Pilot Lever Control — air and water both controlled by one lever.
7. Counterbalanced Pad — eliminates hovering vibration.
8. Low Air Consumption — 4.5 cubic feet per minute, depending on speed.

FREE DATA — If you wish to know more about sanding of wood, metal or composition, or any sanding problem, write for free bulletin 1151.

SUNDSTRAND MACHINE TOOL CO.
PNEUMATIC MACHINE DIVISION
ROCKFORD, ILLINOIS, U.S.A.

▼ FREE!!!—Identify by IEN-4372 if you write the maker ▼

GET RID OF WIRES

and get foolproof connections in
RADIOS
AMPLIFIERS
SWITCHBOARDS
METERS

Print your circuits with Du Pont Conductive Coatings—reduce costs and time

Highly conductive coatings of low resistance are easily obtained by spray, brush, dip or dipped to metals and non-conductors. These coatings can be used to make economical, lightweight, compact high voltage capacitors, static shields to replace usual cans and foils, resistors and solder seals. For more information, send for Bulletin CP 2-1248. E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Del.

DU PONT ELECTROCHEMICALS

DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

▼ BRIEFLY—Identify by IEN-4373 if you write the maker ▼

BORG-WARNER

(INGERSOLL STEEL DIVISION)

A dependable source for

STEEL

Borg-Warner operates at New Castle, Indiana, (Ingersoll Division) steel mills that roll many special steels to special uses. For example, here you will find a dependable source of—

- STEELS that *RESIST CORROSION*
- STEELS that *RESIST HEAT*
- STEELS for lower cost *STAINLESS PROTECTION*

So when you need solid stainless, heat-resisting alloy steel, or IngAclad stainless-clad steel—write, wire or phone. Our advisory service is yours for the asking without cost or obligation.

INGERSOLL
STEEL DIVISION

BORG-WARNER CORPORATION, 310 S. Michigan Ave., Chicago 4, Ill.
PLANTS: Chicago, Ill. • New Castle, Ind. • Kalamazoo, Mich.

▼ BRIEFLY—Identify by IEN-4374 if you write the maker ▼

The True Ball Joint of Dart unions are spherically ground to form true bearing surfaces. The reason Darts close tight . . . stay tight.

Less Expensive! You can get a snug fit easily without marring the seats of a Dart. Uncouple them easily, too . . . use them over and over again.

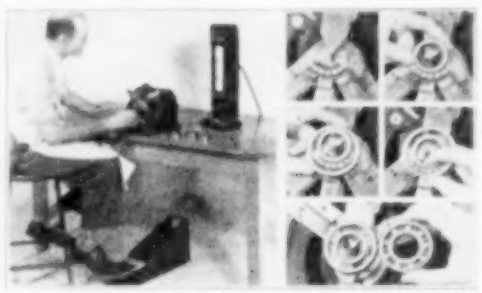
Practically Indestructible malleable iron is used for body and nut of Dart unions. Another important feature that means longer service.

E. M. DART MFG. CO., Providence 5, R. I.

▼ BRIEFLY—Identify by IEN-4376 if you write the maker ▼

GAGE . . Pneumatic comparator to match ball bearing races and balls

Source: SHEFFIELD CORP.
719-23 Springfield Ave., Dayton 1, Ohio



Correct diameter of balls to fit between two given races or the correct clearance of the races in relation to each other to take balls of a given diameter for a required radial play is determined by this new semi-automatic adaptation of the company's Two-pressure pneumatic gage. Operation is positive to within .000005" accuracy, a manufacturer is assured his entire lot stock of balls and races is given consideration.

Three air spindles comprising basis of an exact diameter are brought together in a measuring position as shown at 1 in the illustration. An inner race is gaged in position as shown at 2 and an outer race is held over the inner race as at 3. Then the operator depresses a foot pedal which brings the races as at 4, for entry of the ball. Diagram shows at 5 the split-second gaging system that takes place. Thereafter, as this gage is in the stream of production, the operator is relieved completely of the responsibility of gaging. The resulting is automatic with the gage merely giving a signal when the balls are oversize or undersize.

▼ BRIEFLY—Identify by IEN-4377 if you write the maker ▼

VALVE . . Diaphragm operator on Saunders patent diaphragm valve

Source: HAMMEL-DAHL CO.
241-45 Richmond St., Providence 3, R. I.

New assembly of the Saunders patent diaphragm valve and the company's 2000 Series operating diaphragm is available in a range of valve sizes from ½ inches. Operation can be specified as normally closed, normally open and "offset". The valve is available in plain and rubber-lined cast iron or with glass or lead lining in place of the rubber. It can be specified in Type 316 stainless steel or in any of a number of alloys for given services. Pressure rates 150 lb. through 4 in., 125 lb. through 6 in., 100 lb. through 10 in. and 65 lb. at 12 inches. Temperature is to 180 deg. F.

The operating diaphragm employs air to close and a spring to open in the normally open design. It opens by line air pressure against a predetermined built-up air pressure introduced and trapped above the diaphragm in normally closed design. The "off-on" assembly has a double-acting diaphragm with line pressure applied to either side.

All Makes of Them And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

▼ BRIEFLY—Identify by IEN-4379 if you write the maker ▼

MARK IT FOR MARKET!

Modern Marking Machines now enable most manufacturers of metal components to identify their products at trifling cost.

YOUR NAME,
MODEL NUMBER,
PART NUMBER,
SERIAL NUMBER
OR DECORATIVE
DESIGN ROLLED
INTO YOUR
PRODUCTS WILL
HELP YOU
MARKET THEM.

Send prints of parts, showing required marking and its location on part with hourly production for free recommendation.

WRITE FOR CATALOG

GTS **GEO. T. SCHMIDT, INC.**
4108 N. Ravenswood Ave.
CHICAGO • 13 • ILLINOIS

▼ BRIEFLY—Identify by IEN-4380 if you write the maker ▼

A tremendous hit among paper converters and paper goods manufacturers, the new *Rollster* now bids to become the most popular small roll slitter-rewinder ever built by Cameron. Pressure pneumatic slitter units, which eliminate the need for slow, separate cutter adjustments; the labor-saving motor-driven riding roll lift; and the solenoid operated automatic stop for measuring the length of strip, are only a few of the outstanding features of this great new *Camachine*. You are invited to request complete information.

Send for Bulletin 1000

CAMERON MACHINE COMPANY
61 POPLAR STREET - BROOKLYN 2, N. Y.

▼ BRIEFLY—Identify by IEN-4375 if you write the maker ▼

No More Frozen or Galled STUDS

(even at 1800 F.!) Try this Amazing Money Saver.

FREE Test Sample of the NEW FEL-PRO C-5 "HI-TEMP" THREAD COMPOUND

CUT costly stud breakage, heater dismantling time, pitting of metal surfaces!

We'd like to send you a free sample of the new Fel-Pro C-5 "Hi-Temp" Thread Compound to cut your toughest thread compound problems, including alloy and stainless steels. Then you can see the amazing, money-saving results being obtained by the country's largest refineries, utilities and process industries. Fel-Pro C-5 "Hi-Temp" Controlled-Copper Formula keeps metal parts protected, regardless of temperature. Its neutral action will not affect alloy and stainless steel parting problems. One utility company reports that heater dismantling time has been cut from two days to four hours. Try the new Fel-Pro C-5 "Hi-Temp". Write us on what "Hi-Temp" can do for you . . . get your free sample and complete data sheet—write today!

FELT PRODUCTS MFG. CO.
1115 Carroll Ave., Chicago 7, Illinois

▼ BRIEFLY—Identify by IEN-4378 if you write the maker ▼

Here's the right iron for EXTRA HEAVY DUTY SOLDERING

Super-powered at 700 WATTS!

$27.00
An Iron for Every Soldering and Branding Need

HEXACON

HEXACON ELECTRIC COMPANY
155 WEST CLAY AVE. • ROSELLE PARK, NEW JERSEY

▼ BRIEFLY—Identify by IEN-4381 if you write the maker ▼

HOOVER
ELECTRIC MOTORS
give your reputation a clean start!

THE HOOVER COMPANY

▼ REFER TO IEN-4382 ▼

YOU GET *Accuracy*

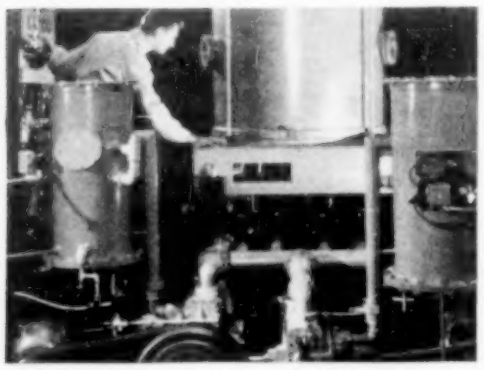
WHEN YOU SPECIFY EX-CELL-O DRILL JIG BUSHINGS

XLO

For years Ex-Cell-O has been known by American industry as headquarters for precision-made bushings . . . Ex-Cell-O carries one of the largest and most varied stock of drill jig bushings available in the world.

EX-CELL-O CORPORATION • DETROIT 32, MICHIGAN

▼ REFER TO IEN-4383 ▼



Watching an Economy Wave

IN PLASTICS COATING

Inside the chamber are racks of plastic items being coated with a brilliant metallic surface. The application is vacuum coating. Special lacquers under and over the metallic film insure permanence and gloss.

The equipment is DPi-made. The lacquers are selected with DPi assistance. DPi technical advice made the entire project possible.

The stainless steel bell jar is 36 inches in diameter and 42 inches high, shown above in DPi's IC-136 Vacuum Coating Unit—ideal for batch coating. Several manufacturers are using this unit for coating small plastic novelties for the dime store trade. It has proved its practical economy in this field where there is a very small margin per unit of sale.

New applications for vacuum coating are being developed almost daily. It is already a regular, standard production tool, lowering costs for many manufacturers.

Write for your free copy of the DPi booklet, "Vacuum Metal Coatings by High Vacuum." It gives full data for the entire line of coating units, ranging from 10-inch bell jar work chambers through

VACUUM EQUIPMENT DEPARTMENT

DISTILLATION PRODUCTS *industries*

761 Ridge Road West, Rochester 3, N. Y.

DIVISION OF EASTMAN KODAK COMPANY

▼ REFER TO IEN-4385 ▼

GAGE . . Vernier caliper, German made of hardened chrome steel

Source: TECHNO EXPORTS
15 Whitehall St., Room 612, New York 4, N. Y.

The lower scale on this new imported caliper reads in fractions to 64 inches. The upper scale reads to 1/128-inch steps to 160 mm. Both scales can be converted to three ranges. The gauge weighs 1 lb. 10 ounces for the 64 inch model. Three spacers are furnished to fit on the jaws when desired. The back jaw allows gauging to measure from inside surfaces or narrow shoulders. A depth gauge rides on the caliper shank.

A button release is pressed to unlock the sliding jaw. The sliding jaw is moved by rack-and-pinion action at the top of the scale as the other scale face moves. Both scales are flush to hold a measuring position. Locking in position and permits use of the caliper as an inspection gauge. The gauge of the type shown is sold by a retail firm.

▼ REFER TO IEN-4386 ▼

PLASTIC . . Phenolic material cures quickly in mold, gloss finish

Source: BAKELITE DIV.
30 E. 42nd St., Room 1502, New York 17, N. Y.

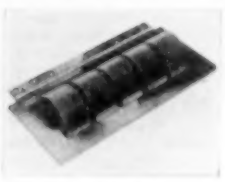
Time saving: to 50 per cent

Bakelite [illegible] is a new phenolic molding material for [illegible] parts. It is said to cure [illegible] times faster than [illegible] materials. The manufacturer claims it is [illegible] for [illegible] applications.

▼ REFER TO IEN-4387 ▼

SEPARATING . . Permanent magnet removes tramp iron from materials flow

Source: SPROUT, WALDRON & CO.
541 Waldron St., Muncy, Pa.



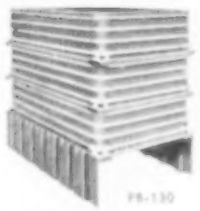
Lifetime [illegible] permanent magnet assembly is a hinged, stainless-steel plate to open in the bottom of a chute carrying the readily ferromagnetic materials as it runs to processing equipment. The magnetic attraction holds ferrous materials such as tramp iron from moving into the equipment. The hinged arrangement permits cleaning from time to time.

The plate measures 6 in. in flow direction and is available in various widths from 4 to 24 inches. Weight is 2½ to 20½ pounds. The company has prepared information to guide in correct application of the new equipment.

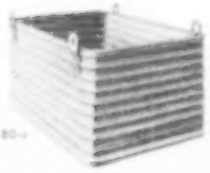
All Makers of Every And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30

▼ REFER TO IEN-4388 ▼

HEADQUARTERS for materials handling equipment



FS-130



B-80-x

TRUSCON Steel Company

PRESSED STEEL DIVISION • 6100 Truscon Ave., Cleveland 4, O.

Subsidiary of Republic Steel Corporation

▼ REFER TO IEN-4389 ▼

KEEP The Air FRESH In Your Working Areas!

IT ISN'T Expensive WHEN YOU SPECIFY "Buffalo"

"Buffalo" Propeller and Turbine Fans are rugged, efficient, built to serve a lot of air at almost unbelievable cost. You can install them easily, in many ways needed. The sizes are time-tested, standardized, and operating cost data from on other pages are conclusive.

WRITE FOR BULLETIN 1050-F

BUFFALO FORCE COMPANY
490 Broadway Buffalo, N. Y.
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Branch Offices in all Principal Cities

"Buffalo" DISK FANS

▼ REFER TO IEN-4390 ▼

Easy's the electric finisher with genuine reciprocation action. Duplicates the craftsman's natural back-and-forth motion of hand block sanding and rubbing.

STRAIGHT LINE action sands up to moldings. Does not sand cross grain, cut swirls, eye workers or other hand to cover abrasive patterns. NO HAND CLEAN UP WHEN YOU USE AN EASY.

NEW MODEL DF:

- FASTER CUTTING
- POSITIVE DRIVE
- VELVET SMOOTHNESS and a host of other new features

Plus EASY'S REPUTATION FOR TROUBLE-FREE LOW COST MAINTENANCE

Call your jobber or dealer or write for bulletin.

DSM DETROIT SURFACING MACHINE COMPANY

7439 W. DAVISON • DETROIT 4, MICH.

▼ REFER TO IEN-4391 ▼

SAFEWAY . . . a new and rugged light weight chain hoist

Designed to keep pace with today's demands for greater efficiency in materials handling, this new Wright hoist is light in weight, high-speed, compact, strong, easy to service, long lived. Capacities from ½ to 1 tons. Load chains of steel, heat treated, proof tested, have high wearing properties and high safety factor against possible impact loads. Weld-mounted pawl and ratchet. Load wheel revolves in Bronze type bronze mounted to high temperatures, cold, wet and dusty atmosphere. Send for bulletin DH-1050.

WRIGHT HOIST DIVISION
American Chain & Cable
York, Pa.

▼ BRIEFITS—Identify by IEN-4392 if you write the maker ▼

Cut Clock Watching

...IN TIMING ANY PROCESS

Automatic **INTERVAL TIMER**
(TYPE T-48)

For the G-E give you reliable, natural timing of process or laboratory operations. It does operations for other work. And it's easy to set up—simply plug in and run. Low in cost, too. $19.95 list.

Four different models: 12 hour—1 hour—15 minute, and 120-second—offer a wide range of performance. And its expanded scale makes it easy to set.

Operates accurately on 115-volt, 60-cycle AC line. Has 1,000-watt, 125-volt AC contact load. Unit weighs 4½ lbs.

Many uses in laboratory, industry or home. See your nearest G-E representative.

Write for Bulletin. Ask for GEA-5108. Write Section 805-91, Apparatus Dept., General Electric, Schenectady 5, N. Y.

GENERAL ELECTRIC

▼ BRIEFITS—Identify by IEN-4393 if you write the maker ▼

AIRVEYOR

YOU CAN'T BUY A BETTER CONVEYOR!

The engineering and research facilities of the Fuller Company assure you the best design possible and in addition, equipment built to give lasting satisfaction — assets accrued through the many years of experience and intimate contact with the field of pneumatic conveying of dry pulverized, crushed and granular materials.

When you need conveying, bill of lading problems. We are at your service — no obligation on your part. Write for Bulletin A-11 to the Airveyor.

FULLER COMPANY, CATASAUQUA, PA.
Chicago 3 - 120 So. LaSalle St.
San Francisco 4 - 420 Chancery Bldg.

▼ BRIEFITS—Identify by IEN-4394 if you write the maker ▼

SCREWS

Machine, Wood, Cap, Lag, Set, Knurled and Thumb Screws

Brass, Bronzes, Aluminum, Monel, Stainless Steels

Large stock reels for immediate delivery from distributors and warehouses in principal cities.

FREE STOCK LIST

The H. M. Harper Company
8151 Lehigh Ave.
Morton Grove, Ill.

Please send free catalog sheet, list of warehouses and distributors where I can buy standard quantities, sizes and types of screws for immediate shipment.

Name
Company
Address
City State

▼ BRIEFITS—Identify by IEN-4395 if you write the maker ▼

HOIST . . Hand operated chain design ½ to 4 ton with 8 to 10 ft. lift

Source: AMERICAN CHAIN & CABLE CO.
927-31 Connecticut Ave., Bridgeport 2, Conn.

The hand chain in this new hoist rides a pocket sheave on a worm shaft to drive an assembly of planetary gearing that connects to the load sheave where pockets take the load chain for positive action. Also mounted on the shaft is a Worm friction and ratchet brake that prevents a load from overhauling and controls the downward movement. The complete rotating assembly is mounted on ball bearings and is lubricated by oil from a factory-filled reservoir which will last for several years in normal service.

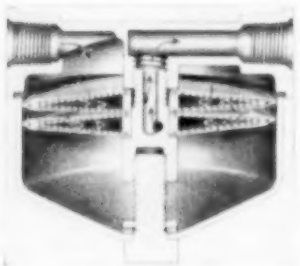
The load chain is made of steel accurately sized and proof-tested. The load sheave is recessed after the chain pocket shoulders on one face have become worn. The sheave is enclosed by a pressed-steel cover inside the steel hoist housing. A wide-type hook rides with the chain. The hooks, top and bottom, are steel forgings. The bottom hook rides in a ball-bearing swivel. Both hooks are designed to open slowly without letting go in the event of a serious overload.

List price is $335 to $585 in the six sizes in the line. Minimum distance between hooks is 11½ to 19½ inches. Pull on the hand chain for rated load is 56 to 105 pounds. From 21 to 84 ft. of hand chain are overhanged to lift the load one foot. Load chain length is 9 to 31 feet. Hoist weight is 41 to 138 lb., including chain and hooks.

▼ BRIEFITS—Identify by IEN-4396 if you write the maker ▼

FILTERING . . Disc type unit for fuel oil, gasoline, gases, air

Source: SPARKLER MFG. CO.
Lake St., Room 1, Mundelein, Ill.



Perforated discs are assembled on a hollow perforated stud in this new filter. The flow path is in to fill the housing, to pass through the discs into the stud and out to the outlet connection. The discs are covered with a suitable filter medium for the liquid, air or gas to be cleaned. The filtering action will remove solids down to 1 or 2 microns from liquids, water from fuel oil or gasoline, oil from air or water.

The housing accepts 3⅝ in. in diameter and overall height is about 9⅛ inches. It forms a collection chamber for accumulation of foreign matter to be cleaned out from time to time after unscrewing the bolt in the bottom. Inlet and outlet are threaded for ¾ in. pipe. Three sizes number two four or eight disc elements. The assembly with two in illustration fits one price at $52.50.

All Makers of These And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 50

▼ BRIEFITS—Identify by IEN-4397 if you write the maker ▼

JUST A HANDFUL

for D-C Motor Control from A-C Lines

This compact, lightweight, easily-mounted and wired motor speed control is the ideal means for practically instantaneously starting, stopping and reversing 1/20th h-p d-c motors when operated from a-c lines. Any standard motor can be used. No derating is necessary. The Type 1701 VARIAC Motor Speed Control gives perfectly smooth variation in speed over a range of over 15 to one. The very low torque pulsation and the extra-good speed regulation provided with these new controls offer many possibilities of improved operation of fractional horsepower motors in Industry. For complete details

WRITE FOR "VARIAC MOTOR CONTROL BULLETIN"

GENERAL RADIO CO.
Cambridge 39, Massachusetts
NEW YORK CHICAGO LOS ANGELES

▼ BRIEFITS—Identify by IEN-4398 if you write the maker ▼

EVERLASTING
the Wear-Resisting Valve

WILL NOT STICK . . . because of its non-corrodible materials. WILL NOT WEDGE . . . because the disc travels parallel to the seat. WILL NOT CLOG . . . because of its straight through flow. WILL NOT LEAK . . . because its seal is kept drop-tight by the self-tapping action of the disc rotating on the seat whenever the valve is opened or closed.

WRITE FOR BULLETIN

EVERLASTING Valves are literally unequalled for many services on process lines, emergency shut-offs, equipment outlets, boiler blow-off, fire protection, etc., and are suitable for all fluids.

EVERLASTING VALVE CO.
49 Fisk Street Jersey City 5, N. J.

Everlasting Valves
for everlasting protection

▼ BRIEFITS—Identify by IEN-4399 if you write the maker ▼

Functional, Decorative Thermoplastic

Royalite

CAN BE FORMED WITH LOW-COST TOOLING AND CONVENTIONAL EQUIPMENT

U. S. Royalite combines in one material many of the best characteristics of both synthetic rubber and plastic. It is tough, highly resistant to severe bumps, bangs, and abrasion. It is produced in a range of 12 standard colors. The colors can extend uniformly through the thickness of Royalite — which varies from .015" to .500". Finish may be smooth or grained. May be rigid or flexible.

CHECK ROYALITE'S ADVANTAGES:

IT IS	IT CAN BE	IT IS AVAILABLE
Tough	Sewed—Sheared	Stiff or Flexible
Friendly to Touch	Sanded—Punched	Hard or Soft
Quiet and Warm	Nailed	Coarse or Fine-Grained
Relatively Light	Bolted—Riveted	Deep Grained or Shallow
Shatterproof	Sewed	Thick (½" to .015")
Stainless	Screwed Into	Glossy or Dull
Acid Resistant	Cemented	Decorated or Plain
Excellent Dielectrically	Buffed—Polished	Bright or Standard Colors

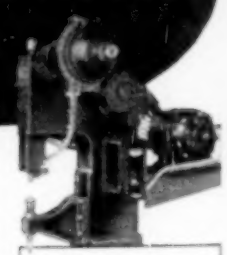
u.s. Royalite

UNITED STATES RUBBER COMPANY
2638 NORTH PULASKI ROAD - CHICAGO 39, ILL.

▼ BRIEFLY—Identify by IEN-4401 if you write the maker. ▼

Top Speed with T-J RIVITORS

. . . Automatically Feeds and Sets Solid Rivets!



On countless assembly jobs today—T-J RIVITORS are doing the rivet setting *faster and better!* T-J feeds and sets solid rivets *automatically* . . . no manual rivet handling . . . easy for women operators. T-J produces a solid rivet joint of 30% to 35% greater strength—a completely filled hole . . . no flashing . . . a neat, balanced head. Handles many types of rivets . . . saves labor . . . cuts costs. Write for bulletin. The Tomkins-Johnson Company, Jackson, Michigan.

ELECTRICALLY POWERED

for 1/16" to 1/4" diameter semi-tubular or solid rivets up to 1" long.

AIR POWERED

for aluminum alloy rivet types, 4 degrees vertical, rivets up to 3/16" diameter, up to 1" long.

T-J FOR TOUGH JOBS

TOMKINS-JOHNSON RIVITORS

▼ BRIEFLY—Identify by IEN-4402 if you write the maker. ▼

Projector case designed by Revere designers of Revere Camera, Inc., and fabricated in Royal Plastics Co.

CONSULT THESE EXPERIENCED FABRICATORS OF ROYALITE

CALIFORNIA
Los Angeles
Oakland
San Francisco

COLORADO
Denver

CONNECTICUT
Hartford

GEORGIA
Atlanta

ILLINOIS
Chicago

INDIANA
Indianapolis

MASSACHUSETTS
Boston

MICHIGAN
Detroit

MINNESOTA
Minneapolis

MISSOURI
Kansas City
St. Louis

NEW JERSEY
Newark

NEW YORK
Buffalo
New York City
Rochester
Syracuse

OHIO
Akron
Cincinnati
Cleveland
Columbus
Dayton
Toledo

OKLAHOMA
Tulsa

PENNSYLVANIA
Philadelphia
Pittsburgh

TEXAS
Dallas
Houston

WASHINGTON
Seattle

WISCONSIN
Milwaukee

The United States Rubber Company at 3638 North Pulaski Road, Chicago, Illinois, has complete Engineering, Designing, and Styling Departments to assist fabricators on the technique to employ and in the art of fabricating most efficiently with ROYALITE.

▼ BRIEFLY—Identify by IEN-4404 if you write the maker. ▼

BUILDINGS . . Translucent sheets admit daylight through roof and walls

Source: BUTLER MFG. CO.
7402 E. 13th St., Kansas City 33, Mo.

Lite-Panel triple-ribbed resin translucent plastic sheets are more than skylights. The corrugated sheets are used with aluminum building panels. The sheet provides a weather-tight lap with the metal sheets. It is economical, weatherproof, equivalent to five years of conventional sheets in resistance to corrosion, cracking, chalking, checking, discoloration or deterioration.

Application can be made to new buildings or in those now in service by the Butler Lite-Panel Installation Service. Or it may be used over old sheets. Typical arrangement is illustrated.

Sample mailed on request

▼ BRIEFLY—Identify by IEN-4405 if you write the maker. ▼

INSULATING . . Tubular material is flexible, heat-resistant, non-aging

Source: VARFLEX CORP.
106 N. Jay St., Rome, N. Y.

Varflex is a new type of electrical insulating tubing that combines Fiberglas braid and Dacron yarn. It is designed to serve in temperatures to 260 deg. F. for more than 100 hours. Characteristics are flexibility, which is maintained through handling, resistance to attack by oils, moisture, common solvents. The tube does not support combustion. It is available in black and certain colors in sizes 3/32" through 1/2" I.D. in standard lengths of 50 ft. Special sizes, lengths to order.

▼ BRIEFLY—Identify by IEN-4406 if you write the maker. ▼

STAPLING . . Hand operated tool for set-up and telescope boxes, flaps

Source: PASLODE CO.
2214-18 N. Western Ave., Chicago 47, Ill.

Type STA is a new hand stapling tool in which a finger operation under an overlapped lid or flap or joint to drive a staple that will close upon it. Various types of finger are available to meet given conditions. Throat measures 5⅝ inches. Staples load from the rear. Working parts are hardened steel. Front jaw pulses to free a jammed staple.

The tool takes staples with ⅜" to ½" legs. It rates at 850 staples per at $3.20 to $3.40 per box. (5,000 in box of 200).

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 30

▼ BRIEFLY—Identify by IEN-4407 if you write the maker. ▼

RESTORE Battered and Rusted Threads

Nicks and nicks eliminated—even heavily corroded threads quickly cleaned, so that nuts turn off and on freely! Think of the time and money saved! No more drilling or hack-sawing to remove damaged bolts and studs. Just slip on your Buckingham Thread Cleaner, tighten the jaws, start forth!

Buckingham Thread Cleaners follow the pitch of any thread with root diameter from ¼" to 4". No need to insert or change dies. Cutting jaws adjust easily to proper size on the threads. Jaws should be placed below the damaged area and then turned all through that section. See your nearest Buckingham dealer—write or today for further information.

	Thread Sizes	Price
B101	¼" to 1" coarse thread	$ 8.00
B104	¾" to 2½" coarse thread	11.00
B106	2" to 4" coarse thread	25.00
B204	¾" to 2½" fine thread	19.00

BUCKINGHAM MANUFACTURING CO., INC.
49-51 Travis Street Binghamton, N. Y.

▼ BRIEFLY—Identify by IEN-4408 if you write the maker. ▼

NEW GIANT ALLOY adjustable wrenches

OTC

REPLACE 29 SIZES
THINNER • LIGHTER
STRONGER

OTC OWATONNA TOOL COMPANY
371 CEDAR STREET, OWATONNA, MINN.

▼ BRIEFLY—Identify by IEN-4409 if you write the maker. ▼

New Lightweight Casing Increases Coupling Life

New Type A casing features pliable lubrication seals at both ends of the casing, lightweight construction, and a smooth anti-sag surface.

The new Type A Flexible Coupling Casing offers protection against abrasive dust and or corrosive atmospheres, and greatly extends coupling life. It provides excellent lubrication, reduces maintenance, and prevents lubrication throw-off. The casing allows freedom of the coupling to absorb shaft end play and slight misalignment, and may be installed in a space no longer than the coupling itself.

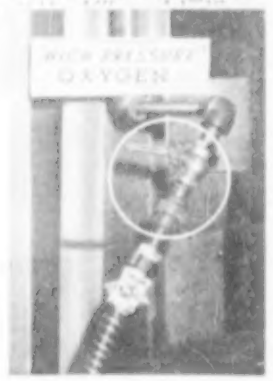
DIAMOND CHAIN COMPANY, Inc., Dept. 465, 402 Kentucky Ave., Indianapolis 7, Indiana.

Refer to the classified section of your local telephone directory under the heading CHAINS or CHAINS, ROLLER

DIAMOND FLEXIBLE COUPLINGS

▼ BRIEFLY—Identify by IEN-4410 if you write the maker. ▼

ROCKWOOD BALL VALVES HELP INCREASE STEEL MAKING CAPACITY



- Full round open area no turbulence in fluid stream
- Leak proof after continued use
- Quarter turn (90°) opening and closing valve

ROCKWOOD SPRINKLER CO
60 HAGLOW STREET — WORCESTER 1, MASS.

▼ BRIEFLY—Identify by IEN-4411 ▼

Lansing Strength
Lansing Quality
Lansing Value

• • •

ATLANTIC TRUCK
for BOXES and BAGS

- HANDY SIZE
- PRESSED STEEL
- ELECTRICALLY WELDED
- HARDWOOD HANDLES

SEND FOR CATALOG

"Keep Your Products on Wheels"

LANSING COMPANY
LANSING, MICHIGAN

▼ BRIEFLY—Identify by IEN-4412 ▼

VAC-IT *does all your cleaning JOBS*

The Airflow Doyle Vac-It is constructed to handle any cleaning job in your plant efficiently and without the necessity of changing units. Wet and dry cleaning jobs are all the same to the Vac-It. Dirt and dust are removed from plant and office floors and walls . . . overhead pipes, production line machinery and installations are quickly cleaned and kept free from clogging dirt and metal scraps with the Doyle Vac-It and Doyle equipment. The Vac-It does not push dirt around . . . it picks it up and removes it from the plant. The powerful motion of the Doyle Vac-It also removes laboratory, cooking or waste at the rate of 750 gallons per hour.

Vac-It will make all your cleaning jobs easier, faster and less costly.

Write for complete data today

Doyle **VAC-IT**

DOYLE VACUUM CLEANER CO.

2735 Stevens St., N.W. Grand Rapids 7, Michigan

▼ BRIEFLY—Identify by IEN-4413 ▼

FOR GREATER STRENGTH

USE **Wirebound**
BOXES & CRATES
FOR LOWER TOTAL SHIPPING COSTS

▼ BRIEFLY—Identify by IEN-4414 ▼

LIGHTING . . Floodlighting fixture takes incandescent lamp to 1,500 watts

Source: WESTINGHOUSE ELECTRIC CORP.
306 Fourth Ave., P. O. Box 1017, Pittsburgh 30, Pa.

No. VF-18 is a new floodlight fixture made of porcelain enameled steel. It is white inside, gray outside, has a beam spread of 135 degrees. Beam efficiency is about 70 per cent as compared with the 50 per cent minimum required for NEMA standards. The fixture is built to take the new 1,500-watt incandescent lamp with general illumination load. The assembly meets NEMA Standard FLA-20, Type 1, Group C for lighting fixtures.

▼ BRIEFLY—Identify by IEN-4415 ▼

WATER PROOFING . . Coating compound for fabrics "breathes" off water vapor

Source: GOODYEAR TIRE & RUBBER CO.
1142-6 E. Market St., Akron 16, Ohio

For clothing and hospital sheeting

Vapotex (trade name) coated fabric, as produced by certain textile manufacturers to fabric makers for whom the company has developed a new microporous coating material based on polyurethane synthetic rubber. The microscopic pores are too small for water to pass through because of the surface tension of the water. At the same time they are large enough to pass vapors at rate of 60 g./sq. ft./hr. A small percentage of wax in the compound adds to the water repellency qualities. The coated fabric is flexible, resistant to grease and abrasion. It can be washed or dry cleaned.

▼ BRIEFLY—Identify by IEN-4416 ▼

FURNITURE . . Chaise lounge for use in first aid and rest rooms

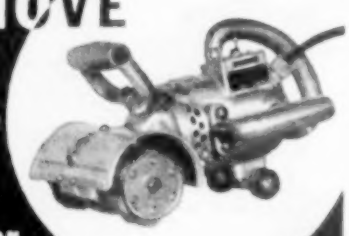
Source: ROYAL METAL MFG. CO.
173-7 N. Michigan Ave., Chicago 1, Ill.

List price [illegible]. This new unique couch, its Chaise-spring construction and its wedge-shaped pillow. Upholstery can be specified in extra-Super-Tuftex leatherette, medium buff or genuine leather. The swivel joint floor glides prevent marring the floor surface. Dimensions are 25 by 26 by 15 inches.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 30

▼ BRIEFLY—Identify by IEN-4417 ▼

REMOVE
SCALE, SLUDGE, RUST



and other accumulation . . . with AURAND CLEANING TOOLS

FOR ANY HARD SURFACE:
IRON—STEEL—BRICK—CONCRETE—ETC.

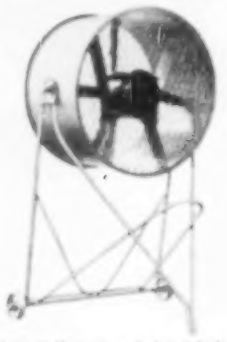
It's easy to remove paint, scale, rust and other accumulations with AURAND Cleaning Tools. Powered, rotary chipping does a thorough cleaning job in less time. No special skill required. Even depth surface is assured by an adjustable shoe control. Cutter heads are renewable.

For further information write Dept. 649

AURAND MFG. & EQUIP. CO.
643 Colerain Avenue • CINCINNATI, OHIO

▼ BRIEFLY—Identify by IEN-4418 ▼

ADD COMFORT . . . SPEED PRODUCTION
with *Aerovent* MAN COOLING **FANS**



Keep your employees cool for more efficient work. Aerovent "Machetti" airfoil fans are efficient and economical.

WRITE TODAY FOR ENGINEERING BULLETIN

AEROVENT FAN CO., Inc.
Ash & Brown Streets, Piqua, Ohio
Competent Sales Engineers in Principal Cities

▼ BRIEFLY—Identify by IEN-4419 ▼

* This is a simple formula, easily applied. Wellman's 40 years' experience are yours for the asking. *Quality Castings* in magnesium, aluminum or bronze produced to your exact specifications. Our *three plants* are completely equipped for production from blueprint to finished casting. *Well-Cast lightweight* castings are being produced every day for the aircraft, automotive, rubber goods, portable tool, textile, and other industries. What are your requirements? Catalog No. 50 on request.

* Aluminum and magnesium + Wellman's 40 years' experience equals quality castings.

"WELL MADE" WOOD AND METAL PATTERNS

THE WELLMAN BRONZE & ALUMINUM CO.

2510 EAST 93rd STREET • CLEVELAND 4, OHIO

▼ BRIEFLY—Identify by IEN-4420 ▼

WHIRLPOOL MIXERS
GENERAL ELECTRIC
½ H.P. MOTOR

now only $35

- Heavy Rubber Cord
- 2 push-pull propellers
- 30" Stainless Steel Shaft
- Heavy base and clamp

PAYS FOR ITSELF IN LESS THAN ONE WEEK

STANDARD ELECTRIC
MANUFACTURING CO. INC.
WEST BERLIN, NEW JERSEY

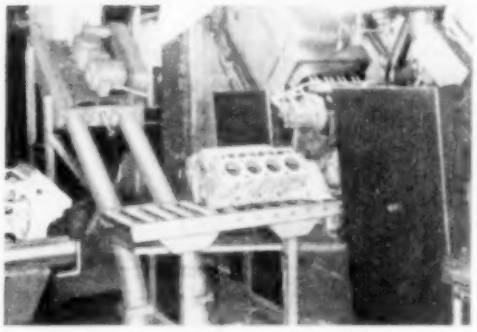
▼ Reference to IEN-4421 ▼

FELT WICKS for reliable oiling

American Felt Company

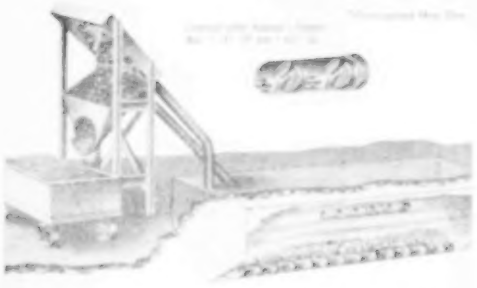
▼ Reference to IEN-4422 ▼

Firm Car Manufacturer SELECTS Houdaille CONVEYOR to solve difficult chip removal problem



Houdaille will do the job for YOU!

METAL WORKING INDUSTRY
MATERIAL FROM DUST COLLECTORS
PLASTIC POWDERS
PACKING PLANTS
SOAP MANUFACTURING
MANY OTHERS

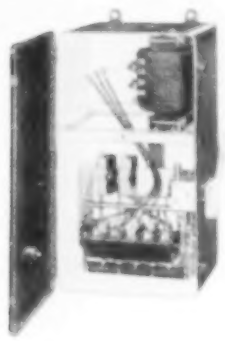


Monan-Crane Corp.
Houdaille-Hershey Corp.

▼ Reference to IEN-4424 ▼

MOTOR CONTROL . . Manual starter, auto-transformer type for ac. motors

Source: ALLEN-BRADLEY CO
1312 S. 2nd St., Milwaukee 4, Wis.



▼ Reference to IEN-4425 ▼

PAINTING . . Vinyl resin coating for brush, spray or dip on metal

Source: ROYSTON LABORATORIES INC
1950 First St., Blawnox, Pa.

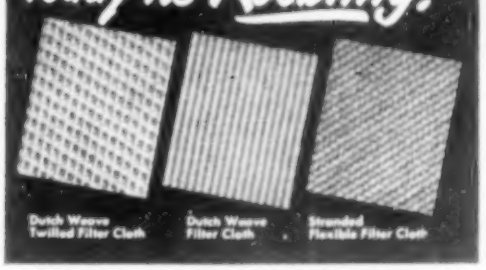
▼ Reference to IEN-4426 ▼

CONNECTOR . . Electric cord and plug for use on tools, appliances

Source: TOM MOORE URELL
333 Broad St., Tioga, Tioga County, Pa.

▼ Reference to IEN-4427 ▼

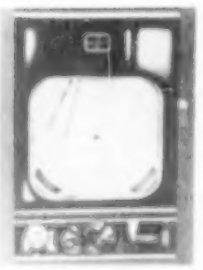
FOR METALLIC FILTER CLOTH... Today it's Roebling!



WOVEN WIRE FABRICS DIVISION
JOHN A. ROEBLING'S SONS COMPANY
ROEBLING, NEW JERSEY

▼ Reference to IEN-4428 ▼

Automatic controller introduces 5 important features

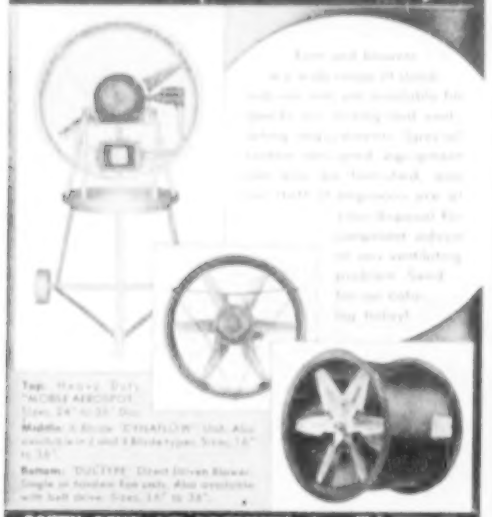


1.
2.
3.
4.
5.

BRISTOL
AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

▼ Reference to IEN-4429 ▼

Fans! FOR ALL INDUSTRY "Standard Units or Custom Design"



SOUTH BEND AIR PRODUCTS, Inc. 322 E. COLFAX AVE. SOUTH BEND, IND.

▼ Reference to IEN-4430 ▼

The Synthane COMBINATION Gives the Right MATERIAL Answers

TECHNICAL PLASTICS
SHEETS • RODS • TUBES
FABRICATED PARTS
SYNTHANE
MOLDED LAMINATED
MOLDED MACERATED

SYNTHANE CORPORATION

▼ FREE!!!—Identify by IEN-4431 ▼

Carbolog Tipped SCRAPER BLADES

THEY LAST 5 TO 10 TIMES LONGER

Speed up scraping operations with these efficient blades. They are especially good for hard alloy iron and the extremely hard bronze castings. If you are already using Anderson Hand Scrapers, it is not necessary to buy complete new scrapers in order to use carbolog tipped blades. Simply remove the high-speed steel blade and slip in the Anderson Carbolog Tipped Blade. They are available in three widths.

Write for Bulletin 510.

ANDERSON BROS. MFG. CO., Rockford, Ill.
Hand and Power Hydraulic Presses. Balancing Ways. Roto Checkers. Hand and Power Scrapers. Spotters.

▼ FREE!!!—Identify by IEN-4432 ▼

A DRILL JIG BUSHING —THAT'S DIFFERENT!

MEYCO
Carbide Inserted Bushings live longer, cost less in the long run.

Here is a bushing that combines the best features of steel and carbide—the permanence of steel and the wear life of carbide. Even under slightly higher drive pressures most industrial chips will cause many times as much life as shells and inserts. product accurate work for a longer period of time, save on machine-down time and increase production quantities.

PUMP MAKER SAYS: "We have a 4" cast iron valve. Bushings are held to a total of .010" in motor and valve. In operating for 80 months, 2000 bushings in 5000 parts. MEYCO bushings show no sign of wear."

Made to A.S.A. Standards. Learn more this "different" bushing and cash in on the savings.

For information and prices write for Meyco Bushing Catalog No. 15.

W. F. MEYERS CO., INC., BEDFORD, INDIANA

▼ FREE!!!—Identify by IEN-4433 ▼

New Data Book

ON STAINLESS AND HEAT RESISTING STEELS

THE CARPENTER STEEL COMPANY

NAME TITLE

COMPANY

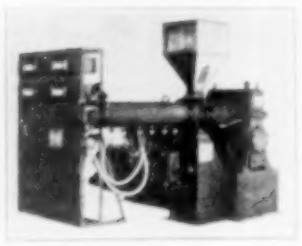
ADDRESS

CITY ZONE STATE

▼ FREE!!!—Identify by IEN-4434 ▼

EXTRUDING . . Worm drive machine to handle thermoplastics and rubber

Source: STANDARD MACHINERY CO.
10 Water St., Mystic, Conn.



New design in the company's line of extruding machines includes an electric control to synchronize the actions of the extruding screw and the accessory cross handling equipment. Change in cylinder construction to provide capacity of 300 lb. per hr. as compared with 200 lb. per hr. on the corresponding earlier machine of the same size number.

The machine is driven by a direct current motor through a worm reduction mounted on roller bearings and equipped with flood lubrication. The worm wheel connects to the screw through a flexible coupling. The screw is positioned axially by a thrust bearing and the rear end of the screw is supported by a roller bearing. Heat is supplied by electrical resistance units and is controlled by thermocouples. Each section of barrel, from feed hopper to the discharge end, is individually controlled for temperature. Four sizes in the line have 2 to 4 in. extruded bore, are rated for 15 to 40 hp. at the screw, or gearing, 25 to 100 rpm on rubber. Screw ranges from 1.5 to 3.5 in.

The action of the cylinder types is similar except that the hopper is omitted. Instead, the material is fed by a preheater screw and is compressed by a tapered screw. Each section is heated separately. Four sizes in the line have 2 to 4 in. extruded bore, are rated for 15 to 40 hp. at the screw, or gearing, 25 to 100 rpm on rubber. Screw ranges from 1.5 to 3.5 in.

The illustration shows the machine equipped for making [illegible] tubing. The tubing is drawn through a sizing die and a cooling trough by a caterpillar type haul-off. Tubing is cut to length by a traveling saw.

▼ FREE!!!—Identify by IEN-4435 ▼

TESTING . . Multiplier phototube picks up infinitesimal illumination

Source: RADIO CORP. OF AMERICA
413-17 S. 5th St., Harrison, N. J.

No. 1P21 is a new multiplier phototube capable of picking up extremely feeble illumination, converting it into useful current multiplied several million times by the phenomenon of secondary emission. Initial sensitivity is 75 microamperes per lumen. Spectral response is similar to that of the human eye, with a peak in the blue region. Dark current is extremely low, of the order of 2 x 10⁻¹⁰ amperes.

The action of the phototube is based on the photoelectric effect and the phenomenon of secondary emission. When light falls on the photocathode, electrons are emitted in proportion to the intensity of illumination. These are always electrostatically focused on the first of 9 anodes or dynodes and multiplied by secondary emission within the tube.

The action of the tube is such that an additional electron is emitted at each dynode by impact of an electron coming from the preceding dynode. Each dynode is biased up an additional amount of sufficient strength to produce a drop of control gain.

The illustration shows the tube in its intended use for measuring the intensity of illumination in which it is desired to measure the [illegible] of an illuminated [illegible] to maintain [illegible] constant. The [illegible] is focused on the photocathode of the tube by a lens system. Light from a standard source is reflected from a mirror through a shutter and a filter wheel. The shutter and filter wheel are driven by a motor. The filter wheel contains a series of neutral density filters which can be rotated into the light path. The shutter and filter wheel are supplied as accessories.

All Makers of Trade And All Other Products Are Listed In THOMAS' REGISTER Directories, Postings See Page 30

▼ FREE!!!—Identify by IEN-4436 ▼

FLUID DRIVE *lift hing* TRUCK

smooths out handling kinks and costs

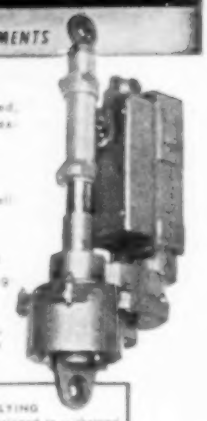
Smooth Fluid Drive makes easy shifting a cinch. Automotive controls. Drives like your car. Powerful 35 H.P. motor. Direct hydraulic lowering and tilt control. Steering. Sealed drive prevents water from entering. Has safety-first multiservo-action hydraulic brakes, ground gripper tires. Capacities to 10,000 lbs. Write for literature.

THE YALE & TOWNE MANUFACTURING CO.
Roosevelt Boulevard · Philadelphia 15, Pa.
HAND LIFT AND POWER TRUCKS · HAND AND ELECTRIC HOISTS · INDUSTRIAL DIAL SCALES

▼ FREE!!!—Identify by IEN-4437 ▼

Custom-Built ★ MOTORS, ACTUATORS ★

FOR YOUR DESIGN REQUIREMENTS



SPECIAL MOTORS . . .
Drip proof, splash proof, totally enclosed, vapor seal, submersible, high and low extremes of operating temperatures.

SPECIAL GEARING . . .
Speed range of 30,000 to 1 R.P.M., helical spur, bevel and planetary type.

COMPLETE POWER PACKAGE UNITS
For A.C. or D.C. power source with magnetic clutches and brakes, built in limit switches, potentiometers, thermal overload relays, radio noise filters, pressure tight shaft seals with linear or rotating power takeoff.

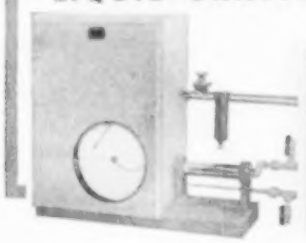
HOOVER POWER UNITS ARE SPECIFIED EQUIPMENT ON THE FASTEST AIRCRAFT FLYING
This 12.5-pound tail stabilizer actuator is designed to withstand an ultimate load of 15,000 pounds, an example of the severe load requirements Hoover power units are called upon to meet.

Whatever your electrical actuation problem, a Hoover unit will do the job. They can be supplied in experimental or production quantities.

HOOVER ELECTRIC COMPANY
2100 South Street Avenue • Los Angeles 21, California

▼ FREE!!!—Identify by IEN-4438 ▼

ARCCO-ANUBIS
RECORDING CONTROLLING LIQUID GRAVITOMETER



CONTROLS BLENDING OF TWO OR MORE FINISHED PRODUCTS

for Pipelines, Refineries, Chemical Plants, etc.

This new instrument serves to determine and record the specific gravity of liquids in the same manner as the standard Arco-Anubis liquid gravitometer.

In addition to these features, a controlling mechanism is provided, which may be pre-set to operate the pipe line, refinery, still and plant control valves to any specific gravity range required in blending two or more finished products.

Temperature corrected, this extremely accurate instrument is adaptable to high pressures and is available with internal parts of stainless steel for use with corrosive liquids. Data Bulletin No. 111-A.

AMERICAN RECORDING CHART CO.

Available for Early Delivery

▼ FREE!!!—Identify by IEN-4439 ▼

YOUR PRODUCTS ARE "LOST IN A BIG CITY" UNLESS YOU PROPERLY MARK THEM

ACROMARK SIMPLE BUT HIGH-PRODUCTION EFFICIENT MARKING MACHINES ARE THE SAME!

OTHER ACROMARK PRODUCTS ARE
Marking and Numbering Machines, Stamps, Dies, Type, Name Plates, Metal Signs, Engraving, Rubber Stamps, Marking Inks, and Special Machines for All Kinds of Marking.

ACROMARK

7 MORRELL STREET
ELIZABETH 4, N. J.

▼ IEN-4440 ▼

Dirt just CAN'T escape

Unique cartridge-type fluid filter keeps shape—collects every particle

CUNO

Fluid Conditioning

Removes More Sizes of Solids from More Types of Fluids

NO FLUID IS BETTER THAN ITS FILTRATION

▼ IEN-4441 ▼

MICRO PRECISION SWITCHES for Production Short Cuts

MICRO precision switches, with their easy adaptability to hundreds of plant uses, are enormously favored by production men as an economical way to improve the efficiency of present plant equipment. Illustrated on this page are some of these simple production shortcuts by which plant engineers have found MICRO products invaluable time-saving aids. Write for MICRO TIPS which contains many more proven applications.

1 MICRO Precision Switch Assures Quick Gauging of Sheet Metal Thickness

2 MICRO Precision Switch Stops Machine if Paper Web Breaks

MICRO... first name in precision switches

MICRO SWITCH

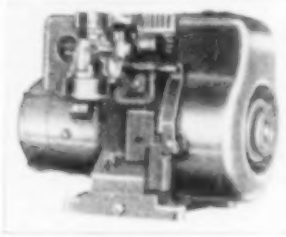
FREEPORT, ILLINOIS, U.S.A.

BRANCH OFFICES: Chicago • New York • Boston • Cleveland • Los Angeles
SALES REPRESENTATIVES: Portland • St. Louis • Dallas • Toronto

▼ IEN-4443 ▼

GENERATOR . . Engine driven unit rates 400 watts, 110 volt 60 cycle ac.

Source: D. W. ONAN & SONS, INC.
41-5 Royalston Ave. N., Minneapolis 5, Minn.



Model 4KSH . . .

▼ IEN-4444 ▼

FABRIC . . Asbestos and cotton for drapery use is safe against fire

Source: JOHNS-MANVILLE SALES CORP.
22 E. 40th St., Room 1201, New York 16, N. Y.

Lists $6 to $8 per yard in stock colors

Colorbestos . . .

▼ IEN-4445 ▼

VALVE . . Globe, angle, check units for liquefied petroleum gas, to 250 lb.

Source: CRANE CO.
836-8 S. Michigan Ave., Chicago 5, Ill.

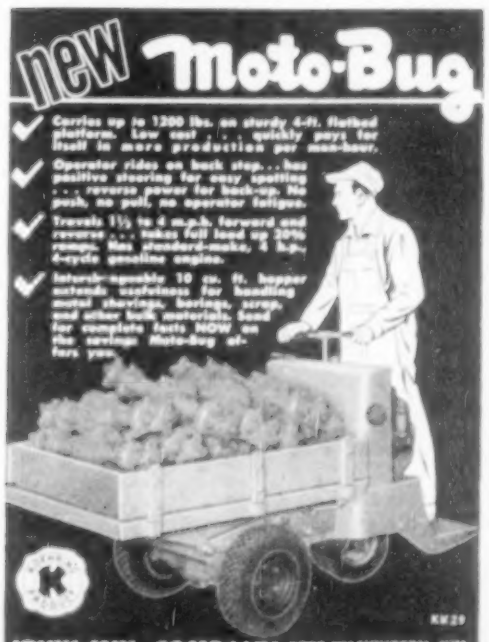
Sizes range . . .

All Makers of Items And All Other Products Are Listed in THOMAS REGISTER — Descriptions — Ratings — See Page 38

▼ IEN-4446 ▼

new Moto-Bug

- Carries up to 1200 lbs. on sturdy 4-ft. flatbed platform. Low cost . . . quickly pays for itself in more production per man-hour.
- Operator rides on back step . . . has positive steering for easy spotting . . . reverse power for back-up. No push, no pull, no operator fatigue.
- Travels 1½ to 4 m.p.h. forward and reverse . . . takes full load up 20% ramps. Has standard-make, 4 h.p., 4-cycle gasoline engine.
- Interchangeable 10 cu. ft. hopper extends usefulness for handling metal shavings, borings, scrap, and other bulk materials. Send for complete facts NOW on this savings Moto-Bug offers you.



KW29

KWIK-MIX COMPANY PORT WASHINGTON, WIS. (Koehring Subsidiary)

Also Mfrs. of: CONCRETE • PLASTER • BITUMINOUS MIXERS

▼ IEN-4447 ▼

"LOGAN" AIR CYLINDERS

STANDARD AND HEAVY-DUTY MILL-TYPE

Fast-Acting, Positive Controlled Power . . . At Low Cost

LOGAN STANDARD AIR CYLINDERS

7 STANDARD MOUNTING TYPES

ENGINEERING COUNSEL

LOGAN HEAVY-DUTY MILL-TYPE AIR CYLINDERS

Logan Air and Hydraulic Equipment

LOGANSPORT MACHINE CO., INC.

FLUID POWER SPECIALISTS SINCE 1916

▼ IEN-4448 ▼

A Billion RPM per year at 30 hp?

That's duck soup to either of these 5" reducers—just like 300 hp at 1750 or 65 hp at 580 is to similar 8" models. That's what they're for: **continuous heavy loads.**

There's nothing special about them. Both are standard stock models. One (right) is fan cooled; the other (above) water cooled. But BOTH have Cone Drive double enveloping gearing. That's what gives them their stamina, their ability to carry big loads continuously, their outstanding shock resistance, their compactness and their **amazing low cost per horsepower.**

Ask for data sheet 0954, pick out size and ratio and get a quote. You have a real surprise coming.

CONE-DRIVE GEARS

▼ IEN-4449 ▼

MECHANICS KNOW THE DIFFERENCE!

between

THE HARD WAY *and the*

ROTARY ELECTRIC IMPACTOOL WAY

Ratings . . .

Runs Nuts • Taps • Reams • Drills Masonry • Wire Brushes • Drives Screws • Drives Studs • Saws Holes • Drills • Bores Wood • Extracts Broken Studs

Ingersoll-Rand

11 Broadway, New York 4, N. Y.

ORIGINATOR OF IMPACTOOLS—AIR AND ELECTRIC

▼ BRIEFITY—Identify by IEN-4450 if you write the maker ▼

CALROD* soldering irons

PRODUCTION MEN LIKE 'EM! . . . because G-E Calrod soldering irons are "ready for work" on continuous or intermittent soldering jobs. Calorized and ironclad tips last long, stay clean, solder fast and are easily removed!

MANAGEMENT LIKES 'EM! . . . because simple, sturdy construction like the 18-8 stainless steel shell stands up under hard use and abuse—keeps them on the job longer—with fewer replacements!

MAINTENANCE MEN LIKE 'EM! . . . because of features like this cord-strain insulator which withstands a pull of 35 pounds. And they need only pull the pin in the handle to slip the cartridge heater right out for servicing—when it's occasionally needed!

FOR FREE BULLETIN, GEA-4519B, just ask your G-E distributor or write to *Section 720-20, Apparatus Dept., General Electric Co., Schenectady 5, New York.*

GENERAL ELECTRIC

▼ BRIEFITY—Identify by IEN-4453 if you write the maker ▼

HYGROMETER . . Dial type assembly with thermometer for humidity readings

Source: ABBEON SUPPLY CO.
58-12-41st Drive, Woodside, N. Y.

Hygrodial is a new Bendix-Friez direct-reading instrument to indicate relative humidity and temperature in the air to which it is exposed. It mounts a humidity scale reading in ten equal divisions from 0 to 100 per cent. The thermometer is filled with red temperature-sensitive liquid for a range from 1 to 70 deg. F. Numerals are satin-finished aluminum on an etched black background.

The humidity element is made of 216 in. of fine blond human hair which changes length on change in relative humidity and so operates the indicating pointer. The instrument stands on rubber feet. It weighs 8 ounces. Dimensions are about 5½ by 3⅝ by 3½ inches. List price is $18.

▼ BRIEFITY—Identify by IEN-4454 if you write the maker ▼

MARKING . . Decalcomanias to identify given fire extinguishers

Source: MEYERCORD CO.
5321-5 W. Lake St., Chicago 44, Ill.

A third design has been added to identify foam-type extinguishers to the two units, previously described IEN 11082-40, respectively, for extinguishers to use on electrical fires and those on rubbish, wood. A large decalcomania is supplied, 8 by 9 in., to appear on a wall at the extinguisher station and a smaller one, 3½ by 2 in., for the extinguisher. Three means for identification are by color, design and wording.

▼ BRIEFITY—Identify by IEN-4455 if you write the maker ▼

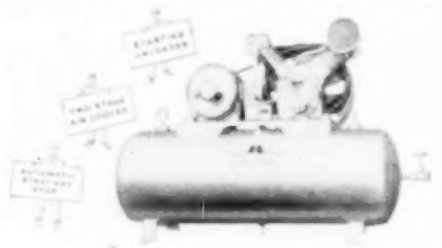
WELDING . . New index to patents in the University's A. F. Davis welding library

Ohio State University
190 W. 19th St., Columbus 15, Ohio

New classification index has been completed by the University's Welding Engineering department to some 12,000 U. S. patents in its A. F. Davis Welding Library. Each patent is classified by process, materials, product, use, inventor's name, date of issue to facilitate search. Use of the index is offered without charge for personal research. A nominal fee is charged for inquiries handled by mail.

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

▼ BRIEFITY—Identify by IEN-4457 if you write the maker ▼



A PARADE OF ADVANTAGES
Westinghouse Air Brake Co.
"Y" COMPRESSORS

All modern features . . . PLUS these vital Points of Protection

7.4 to 41.5 CFM displacements . . . ½ to 10 HP. Ask for Bulletin IDC 9303-3.

Westinghouse Air Brake Co.
Industrial Division, Wilmerding, Pa.
DISTRIBUTORS THROUGHOUT THE UNITED STATES
CONSULT YOUR CLASSIFIED DIRECTORY

▼ BRIEFITY—Identify by IEN-4451 if you write the maker ▼

INDUSTRIAL FILTERS

for Hydraulic and Lubricating Oils, Paint and Lacquer

General Full-Flow filters have an exceptionally high rate of flow. Removes foreign particles down to 5 microns. Also valuable in removing moisture. Wool cartridge is cleanable.

PORTABLE MODEL

Includes pump for forcing paints, lacquers, or other liquids through the filters. Can be installed anywhere. Uses same Full-Flow filters. When installed on paint or lacquer tanks the result is a much smoother, more beautiful finish.

Write — FOR LITERATURE . . . and data on these heavy-duty industrial units.

GENERAL FILTERS, Inc.
12870 WESTWOOD • DETROIT 23, MICH.

▼ BRIEFITY—Identify by IEN-4458 if you write the maker ▼

Write for Catalog OF USES and SPECIFICATIONS

GENERAL Industrial Pneumatics

ADD THESE 6 SELLING POINTS TO YOUR PRODUCT

SAVE
• TIME • LABOR
• FLOORS

REDUCE
• BREAKAGE
• MAINTENANCE
• COSTS

Available in assemblies of Tires, Tubes and Wheels, Size O. D. 4" to 22"—200 to 2000 lbs. cap. for low or high speeds.

General Industrial Tire 16" O. D. on Wide Base Rim — Conventional Tire 16" O. D. on Narrow Base Rim

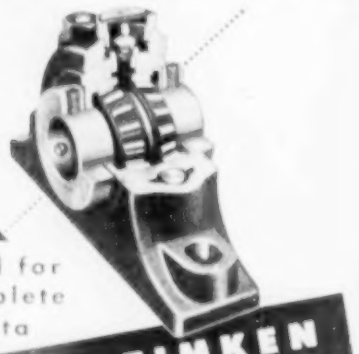
MORE • AIR VOLUME • STABILITY • LOAD CAPACITY • MILEAGE

THE GENERAL TIRE

SEND FOR CATALOG . . . DEPT. 3

THE GENERAL TIRE & RUBBER CO. AKRON, OHIO

▼ BRIEFITY—Identify by IEN-4452 if you write the maker ▼



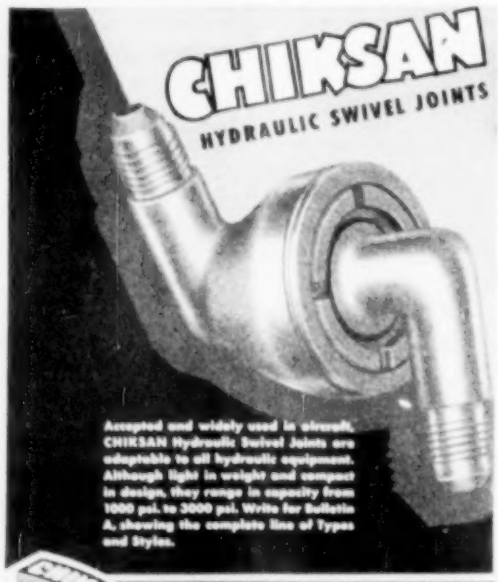
Send for Complete data

DODGE-TIMKEN

DODGE MANUFACTURING CORPORATION
600 Union St., Mishawaka, Indiana

DODGE
of Mishawaka, Ind.

▼ BRIEFITY—Identify by IEN-4456 if you write the maker ▼


CHIKSAN
HYDRAULIC SWIVEL JOINTS
Accepted and widely used in aircraft, CHIKSAN Hydraulic Swivel Joints are adaptable to all hydraulic equipment. Although light in weight and compact in design, they range in capacity from 1000 psi. to 3000 psi. Write for Bulletin A, showing the complete line of Types and Styles.

CHIKSAN COMPANY
AND SUBSIDIARY COMPANIES
Chicago 3, Ill. BREA, CALIFORNIA Newark 2, N. J.
WELL EQUIPMENT MFG. CORP. HOUSTON 1, TEXAS
CHIKSAN EXPORT CO. BREA, CALIFORNIA NEWARK 2, N. J.

BALL BEARING SWIVEL JOINTS FOR ALL PURPOSES

▼ BRIEFITY—Identify by IEN-4460 if you write the maker ▼

NEW ALLEN Tru-Round Dryseal Pipe Plugs

100% PRESSUR-FORMD.

- NEVER OUT OF ROUND
- LEAKPROOF METAL-TO-METAL SEAL
- FULL STRENGTH SOCKET WON'T STRIP OR WEAR

Ideal for extreme pressure applications. For use with dryseal taps. No sealing compound required. Pressur-Formed socket, unweakened by drilling and broaching, is stronger than the strongest key. Pressur-Formed furnished Monarch are nick and dimension-true, insure perfect thread contact, won't gouge softer metals. Perfect taper plus .500" round-ness at both pitch and crest diameters assure accurate fit. Now available in 1/16" to 1-1/4" sizes. No increase in price.

Sold only thru leading distributors. Write direct for complete and engineering data on Allen-Dryseal plugs, also Allen Tru-Round Standard Pressur-Formed plugs for a better seal in normal applications.

WARNING

Allen-TYPE screws won't interchange with Allen-MADE. Be sure to get genuine Allens in the black and silver box.

ALLEN ALLEN HEAD

MANUFACTURING COMPANY
Hartford 2, Connecticut, U.S.A.

▼ BRIEFITY—Identify by IEN-4461 if you write the maker ▼

FOR HYDRAULIC EQUIPMENT This is THE Folder

Write for it.

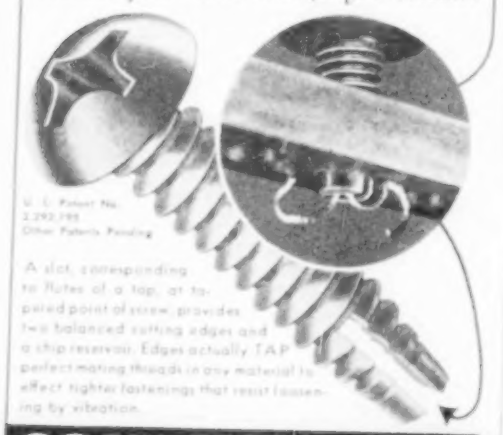
DO YOU USE OR EXPECT TO USE HYDRAULIC OIL PUMPS, MOTORS, VALVES, CYLINDERS??
THEN YOU SHOULD HAVE THIS FOLDER.

THE COMMERCIAL SHEARING & STAMPING CO.
P.O. BOX 719 YOUNGSTOWN 1, OHIO

▼ BRIEFITY—Identify by IEN-4462 if you write the maker ▼

HOLTITE CUT-COST TAP SCREWS

Actually TAP their own perfect threads



U. S. Patent No. 2,293,795
Other Patents Pending

A slot, corresponding to flutes of a tap, at tapered point of screw provides two balanced cutting edges and a chip reservoir. Edges actually TAP perfect mating threads in any material to effect tighter fastenings that resist loosening by vibration.

CONTINENTAL SCREW CO. New Bedford, Mass., U.S.A.

▼ BRIEFITY—Identify by IEN-4463 if you write the maker ▼

CORROSION PROOFING . . Paper cartons chemically treated to protect product

Source: NOX-RUST CHEMICAL CORP.
2429-33 S. Halsted St., Chicago 8, Ill.

Finished cartons, ready to be filled, are now available with the carton material chemically treated for corrosion-resistant action. This represents a further development of that previously described IEN-10-43 in which the company supplies treated paper to mills and sheets to manufacture the cartons. Cartons sizes to order.

The treatment impregnates the paper chemically to set up an evaporation that fills the voids in the package interior and acts as a corrosion inhibitor on any moisture that may have been present to attack the metal was wound.

▼ BRIEFITY—Identify by IEN-4464 if you write the maker ▼

MARKING . . Check indenter and inker impresses amount to prevent alteration

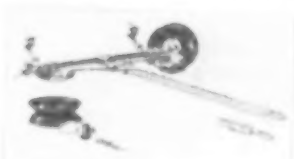
Source: MARCY F. RODERICK CO.
3310-14 Lancaster Ave., Philadelphia 4, Pa.

Executive Check writer is a new hand operated combination of indenter and inker to impress indelibly the desired amount on a check. The unit is about the same size as an ordinary check. It is flat and will fit into a desk drawer. Dimensions are 3 in. by 7 in. Weight is 6 ounces. The unit is packed in a case. List price is $10.

▼ BRIEFITY—Identify by IEN-4465 if you write the maker ▼

WHEELS . . In complete axle kits for industrial equipment to 6 ton

Source: FAYETTE MFG. CO.
50 Industrial Blvd., Fayette, Ohio



Saw assembly of axle, wheels, pivot spindles, springs and tongue provide a steering unit to make up a 4-wheel undercarriage with the rigid assembly previously described IEN 121-50. The wheels are Kelsey Hayes or Motor Wheel design for pneumatic tires. Spread measured between wheels is to specification. Rubber-mounted shackles and hangers are standard equipment.

Specifications and installation data are contained in a new 4-page bulletin, "Precision Built Undercarriage Assemblies".

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BRIEFITY—Identify by IEN-4466 if you write the maker ▼

FOR SMOOTH-RUNNING *Precision Drives* USE "Industrial" GEARS • RACKS • SPROCKETS

ANY SIZE
ANY MATERIAL
ANY QUANTITY

If you have an inspection gauge, make up a sprocket or rack that will gear with one of the four "Industrial" Gears, Racks and Sprockets pictured at the left. Below is certainly one to specify. Stainless and equally exacting, standard and special, to other precision mechanical efficiency.

Why not send your next order to "Industrial" and note the difference?

The Plant that Quality and Service Built

Write for "A Pictorial Trip Through Our Plant."

INDUSTRIAL GEAR MFG. CO.
4521 VAN BUREN STREET CHICAGO 24, ILLINOIS

▼ BRIEFITY—Identify by IEN-4467 if you write the maker ▼

Catsup ON YOUR ICE CREAM?

Just because you need oiling on your neck, the waiter doesn't suspect you want to eat the rest of your dinner too!

And just because one bearing is best lubricated by one particular grade of oil, you shouldn't assume that the same oil is best for all bearings on that machine. In most cases it isn't.

OIL CUPS permit you to lubricate each bearing with the oil best suited to that bearing—thus prolonging bearing life, reducing maintenance costs, cutting down time, boosting production. And oil cups fortunately *cost very little.*

Gits oil cups have been the standard for industry for more than 40 years. Gits Bros. has the largest selection of oil cups available anywhere. Call on Gits Bros. for a prompt, efficient solution to your lubrication problems.

Write for free Price Guide Catalog

GITS BROS. MFG. CO.
1854 S. Kilbourn Ave. • Chicago 23, Ill.

▼ BRIEFITY—Identify by IEN-4468 if you write the maker ▼

You Can Tell Klixon Protectors Protect Motors *by the Company They Keep*

LEADING MOTOR MANUFACTURERS USE KLIXON PROTECTORS TO PREVENT MOTORS FROM BURNOUTS

Motor manufacturers everywhere extend the life line of their motors by installing Klixon Overheat Protectors into their products. Their experience proves that these bodyguard protectors keep motors from overheating and burning out.

Motor users, too, are specifying and using motors with Klixon Protectors to assure dependable motor operation. They have found that protected motors do pay burn out. This means that they save time and money by practically eliminating costly repairs and replacements.

KLIXON SPENCER THERMOSTAT
Division of Metals & Controls Corporation
205 FOREST STREET, ATTLEBORO, MASS.

▼ BRIEFITY—Identify by IEN-4469 if you write the maker ▼

Before YOU BUY ANY HYDRAULIC JACK See HEIN-WERNER

the BEST hydraulic jacks for EVERY industrial use

Hein-Werner Hydraulic Jacks are built to give better, longer service of rugged industrial applications. They're made with strong alloy steel parts of greatest shear strength. Feature the famous Hein-Werner Piston, and are tested at 1½ times rated capacity. They're more economical, more efficient at hundreds of maintenance and production jobs on your plant.

Made in models of 1½, 3, 5, 8, 12, 20, 35, 50 and 100 tons capacity. See your industrial distributor or write us.

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER CORPORATION
WAUKESHA, WIS.

▼ GRIFFITT—Identify by IEN - 4470 if you write the maker ▼

Name Your Need in
CONDENSATION RETURN UNITS
and
Boiler Feed Pumps

You can select from this exceptionally complete line the pumping unit best suited for each specific requirement. Various types of standard Deming Pumps are used with steam units in a wide range of capacities. Operation of all units is automatic and dependable.

THE DEMING CO.
571 BROADWAY
SALEM, OHIO

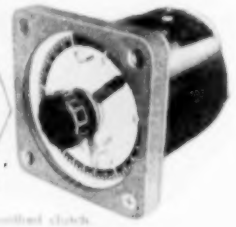
Deming Pumps

Write for 24 page illustrated catalog "Boiler Feed Pumps" No. 141

▼ GRIFFITT—Identify by IEN - 4471 if you write the maker ▼

New! *Small, Dependable* **INDUSTRIAL TIMER**

EAGLE *Cyclflex*



- ELAPSED TIME INDICATOR
- SEALED WINDOW PROTECTS DIAL AND POINTERS
- ENCLOSED MECHANISM
- FLANGE FOR PANEL MOUNTING

Dials available from 30 seconds to 10 hours

- Positive action insured by toothed clutch
- Accurate Timing provided by Synchronous motor
- Auxiliary contacts on clutch solenoid often eliminate separate relays

AN EAGLE TIMER FOR EVERY TIMING PROBLEM

EAGLE SIGNAL CORPORATION Moline, Illinois

▼ GRIFFITT—Identify by IEN - 4472 if you write the maker ▼

You'll do better work... faster and easier... with a

Hamilton Auto-Shift Table!

HERE'S WHY Regardless of the job, your Auto-Shift gives you the most productive working positions. Instant, flexible control of height and angle lets you work at your point of the operation without stoop.

Hamilton Manufacturing Company
TWO RIVERS, WISCONSIN

▼ GRIFFITT—Identify by IEN - 4473 if you write the maker ▼

LATHE TOOLS . . Threader attachment can be set to retract bit from the cut

Source: MOTCH & MERRYWEATHER MACHINERY CO.
713-17 Penton Bldg., Cleveland 13, Ohio

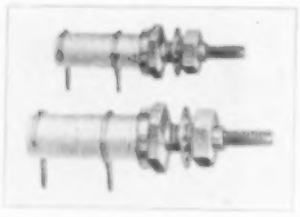
New Meritool is a threading attachment to mount in place of the tool post on any 9 to 24 inch lathe equipped with a lead screw for thread cutting. The tool has a small forward and back action that is locked by operating a vertical lever and is kicked out to trip back by the action of a stop secured to the lathe ways. It is possible to stop a cut to exactly the same place each time to make specific attention unnecessary and to permit high speed cut in threading with a carbide bit.

The setup can be made for internal or external threads. List price is $40.00 with a boring bar for internal work, a threading bit and a kick-out assembly.

▼ GRIFFITT—Identify by IEN - 4474 if you write the maker ▼

ELECTRONIC PRODUCTS . . Coil forms made of silicone impregnated ceramic

Source: CAMBRIDGE THERMIONIC CORP.
445 Concord Ave., Cambridge 38, Mass.



Code LS-5 and LS-6 are two new coil forms in the company's line of electronic and electrical components. Both are made of silicone impregnated ceramic for resistance to penetration of moisture or formation of fungi. The LS-5 unit measures 1/4 in. in mounted height by 3/8 in. in diameter. The LS-6 is 7/8 in. in height by 3/8 in. in diameter. Both are fitted with adjustable ring terminals and with a spring lock for the stud-mounted, soldered-on ring. The mounting stud is cadmium plated brass. Mounting hardware is supplied. The ring can be specified for high, medium or low frequency. Catalog 201, 40 pages, assembly instructions, drawings and technical data.

▼ GRIFFITT—Identify by IEN - 4475 if you write the maker ▼

PLASTICS Data on Micarta.
16 page bulletin covers properties, working, design.

Westinghouse Electric Corp.
306 Fourth Ave., P. O. Box 1017, Pittsburgh 30, Pa.

Revised edition of Bulletin B-3184-D, "Micarta Data Book," describes the company's thermosetting plastic as to manufacturing, grade selection, properties, design suggestions. The information covers laminated, molded and formable-sheet materials. One section presents instructions on machining.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 16

▼ GRIFFITT—Identify by IEN - 4476 if you write the maker ▼

LUG-ALL
All Purpose
WINCH-HOIST

WEIGHS ONLY 9½ LBS., HOISTS, LIFTS, PULLS OR LOWERS 1½ TONS DISTANCE OF 7½ FT. OR ½ TON DISTANCE OF 15 FT.

AND IT COSTS ONLY
$29.50
DEPT. L

LOWER FIRST COST
LOWER MAINTENANCE COST
...THAT'S LUG-ALL

LINCOLN PRECISION MACHINING CO.
NORTH GRAFTON, MASS.

▼ GRIFFITT—Identify by IEN - 4477 if you write the maker ▼

Have you heard about
OAKITE'S great new
pre-paint cleaner?

Oakite Compound No. 33 in one operation removes oil and rust and conditions metal surfaces for painting.

Oakite Compound No. 33 is a great soak cleaner for metal parts of moderate size and great for hand-washing on large parts. It removes heat scale, other oxides, smuts, welding residues and marking inks from steel and aluminum. It develops spondid paint adherence.

It saves money, frequently eliminating separate pickling operations on moderately rusty steel.

FREE For more information on Oakite Compound No. 33 write to Oakite Products, Inc., 16A Thames St., New York 6, N. Y.

Machine cleaning	Tank cleaning	Pickling
Electrocleaning	Burnishing	Paint stripping
Steam-gun cleaning	Barrel cleaning	Rust prevention

Technical Service Representatives in Principal Cities of U.S. & Canada

OAKITE SPECIALIZED INDUSTRIAL CLEANING MATERIALS - METHODS - SERVICE

▼ GRIFFITT—Identify by IEN - 4478 if you write the maker ▼

NEW...

Extremely sensitive
PRESSURE & VACUUM
Switches

The new Type 5B pressure and vacuum switches are for use in applications in which close on-off differentials and absolutely consistent maintenance of cut-in and cut-out settings are essential in the control of pressure or vacuum. Available are two pressure models and two vacuum models. The Pressure Switches have adjustable ranges from 0-15 psi and adjustable on-off differential from .1" wc/10" wc. They may be furnished as calibrated, micrometer type or uncalibrated for screw driver adjustment.

Electrical ratings at 125-250 V AC between 1200 watts and pilot duty depending on differential. The Vacuum Switches offer adjustable ranges from 30" Hg vac with adjustable on-off differential from 1" wc/10" wc. Furnished as calibrated micrometer type or uncalibrated with screw driver adjustment. Electrical ratings of both models 1200 watts at 125-250 V AC.

Special models available for requirements not included in the specifications above.

Write for new bulletin 4926 F giving complete details today.

UNITED ELECTRIC CONTROLS COMPANY
80 School Street
Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

▼ GRIFFITT—Identify by IEN - 4479 if you write the maker ▼

We're on the OUTSIDE looking in

HALSEY TAYLOR *Fountains and Coolers*

▼ REFER TO IEN - 4480 ▼

When you bend pipe on repair jobs, radiant heat or original installations, you save up to 80% of costly fittings. Work goes far faster . . . and at a far lower cost. Any green hand can do it — that's why hundreds are in use.

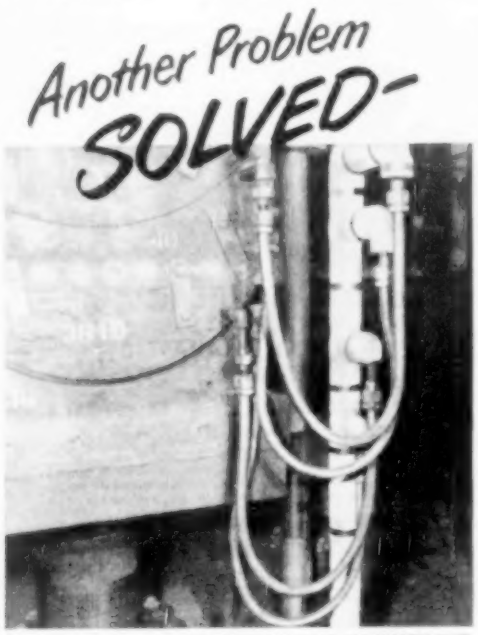
Tal tube benders handle all hard copper tubing without annealing. Also K and L tubing — in diameters from ⅜" to 1". Perfect, flawless bends guaranteed.

Write for informative data bulletins. Dept. 2.

Exclusive Producers of Portable Pipe and Tube Bending Equipment

Tal Bender, Inc. Milwaukee 2, Wisconsin

▼ REFER TO IEN - 4481 ▼



Bendix

Eclipse Flexible Metal Hose

THE PERFECT CONVEYOR WHENEVER PRESSURE, FLEXING AND TEMPERATURE COMBINE!

To this hydraulically operated platen press, Bendix Flexible Metal Hose* alternately carries steam at 150 psi to form brake lining material in a die, and then conveys cooling water to fix the lining to its heated form. The base of the press drops approximately 14" to allow the formed piece to be removed. Bendix Flexible Metal Hose was selected for its ability to withstand these conditions of varying temperature and repeated flexing. If you have a similar problem, write today and let our engineers help you solve it.

*Engineered to your requirements in 85-75 brands, S.AE 1010 carbon steel, stainless steel. Monel, bronze, brass, copper, copper nickel and other special alloys.

LOOK FOR THE MARK OF QUALITY

ECLIPSE-PIONEER DIVISION
BENDIX AVIATION CORPORATION
TETERBORO, NEW JERSEY

Canadian Representative: The Holden Co., Ltd., 894 St. James Street, West Montreal 3, Canada

▼ REFER TO IEN - 4483 ▼

DRIVE . . V-belt sheave
for quick change on tapered bushing

Source: ALLIS-CHALMERS MFG. CO.
909 S. 70th St., Milwaukee 14, Wis.

New application of the collarless tapered hub, previously described IEN 2858-G, for the company's quick change sheave rigging has been announced in connection with a range of V-belt sheaves in 1 to 8-groove design for A and B belts. The range covers single-groove sheaves from 3 to 5¼ in. in pitch diameter bored to the A-belt section. It includes 8-groove sheaves from 2 to 4.8 inches.

The collarless split bushing is tapered and carries two sets of wedge-shaped keys that take one-piece screws in the hub at the sheave. Two of the counterbored tapered keys are offset parallel with the screws so the sheave will be pulled onto the bushing as the screws are turned down. The offset two tapered keys pull the sleeve free toward the sheave-mounting end. The two are shown in the OD and in the center of the sketch.

Data Sheet 208-G, pages 29a and 29b, illustrate the design, provide size and dimension data on the sheaves and the three collarless bushing sizes to which they fit, ½" to 1⅞" inclusive.

▼ REFER TO IEN - 4484 ▼

WELDING . . AC. arc machine;
engine driven generator rates 200 amp.

Source: MILLER ELECTRIC MFG. CO.
1163 W. Wisconsin Ave., Appleton, Wis.

Model AEA-200-P is now available assembly of the engine's engine-driven ac generator-type welding equipment. In addition to the other operating the assembly is equipped with a 1 kw. power outlet for 110 volt ac auxiliary power tools and with a new type of exciter. The machine will handle electrodes from ⅛ to ¼ inch. It is reported good construction for use in the open.

It can be shorted between its commutator and ground (case) and run continuously without damage. On the output side the connections for seven heat stages. Current adjustment is obtained by control of the engine speed. The welding rating is based on 60 per cent duty cycle.

All Makers of These And All Other Products Are Listed In THOMAS REGISTER Descriptions Ratings See Page 56

▼ REFER TO IEN - 4485 ▼

Cut rejections to a minimum!

Customized stamping from your own models or specifications and the experience of WINZELER engineers will help you design and fabricate Winzeler Stamped Gears for assembly operations which will reduce rejections and assembly costs. Winzeler Stamped Gears are made of any metal from soft to spring temper. Also small inspection screws out of the same stock, which facilitate time and labor.

Save money on your next gear order — let Winzeler Stamped Gears help you. Send drawings or samples for quotation and engineering analysis without obligation. Our skilled Stamped Gear engineers will gladly help work out your problems. Save time, money and get quicker delivery.

ASK FOR suggestions, ideas, samples, low cost estimates! Write today! No obligation of course.

WINZELER MFG. & TOOL CO.
3336 WEST ARCADE PLACE • CHICAGO 12, ILLINOIS

▼ REFER TO IEN - 4486 ▼

DOES YOUR PRODUCT NEED
Dependable Compressed Air Supply?

SELECT QUINCY COMPRESSORS

When a product needs compressed air, make sure you get the compressor that will do the job most economically. Quincy's engineering staff is ready to help you select the right size — and type — of compressor for your particular application. Quincy manufactures a complete line of heavy duty units ranging from ½ to 600 hp and more, installed more in a variety of industries than any other make.

Quincy COMPRESSORS

QUINCY COMPRESSOR CO.
Dept. N-50, Quincy, Illinois

▼ REFER TO IEN - 4487 ▼

Top Products In Every Line Cut Costs and Build Sales
with AMERICAN PHILLIPS SCREWS

HOW THEY CUT COSTS. From vacuum cleaners to vending machines; from trucks to office appliances and suntan lamps . . . manufacturers use American Phillips Screws to speed up production, stop spoilage, and cut unit-costs. For these modern fastenings banish fumbling, crooked driving and scarred surfaces . . . cut assembly time as much as 50%.

HOW THEY BUILD SALES. On any product, the crossed-recess of American Phillips Screws is a "green light" to buyers who stop and look for an outward index of inward quality.

AMERICAN SCREW CO.
PROVIDENCE 1, R. I.
AMERICAN PHILLIPS Screws

▼ REFER TO IEN - 4488 ▼

Easy-handling JOHNSON
general-purpose clamshell

THE C. S. JOHNSON COMPANY
Champaign, Ill.

Send us complete facts on ... of General-Purpose Clamshell

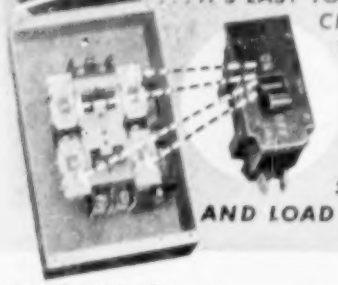
NAME
TITLE
COMPANY
STREET
CITY STATE

• • • • KOEHRING SUBSIDIARY • • IEN

BRIEFITY—Identify by IEN - 4489 if you write the maker

"Ad-On" MULTI-BREAKER

. . . IT'S EASY TO ADD CIRCUITS WITH THIS Type MO 8 SERVICE AND LOAD CENTER



START WITH 4: The basic circuit breaker unit provides 4 single pole, 1 double pole and 2 single pole, or 2 double pole circuits in combinations of 15, 20, 30, 40 or 50 ampere ratings.

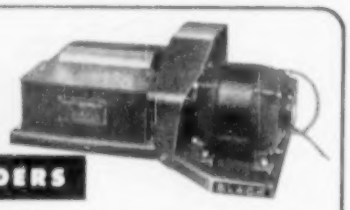
ADD 4 MORE: 1, 2, 3, or 4 single pole circuit breaker units rated 15, 20, or 30 amperes are easily plugged in to basic block.

Write for MO 8 BULLETIN. Square D Company, 6060 Rivard Street, Detroit 11, Michigan

SQUARE D COMPANY

BRIEFITY—Identify by IEN - 4490 if you write the maker

B&B PORTABLE...MOTOR DRIVEN

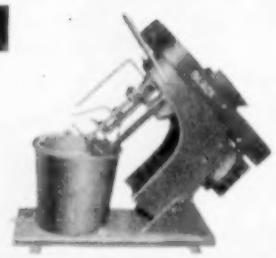


SPREADERS

Made for all kinds of adhesives — hot or cold. Applies an even, economical coat. 115 volt AC motor. Floor stand with casters available if desired. Write for Bulletin 11-A.

MIXERS

Made in 5, 10, 30 and 45 gal. sizes. Powder added gradually through ventilated inlet. Also hinged or machine-tilted out of the way. Thin wax units, too. Write today for Bulletin 11-T.



THE BLACK BROTHERS CO., INC.
MENDOTA, ILLINOIS, U. S. A.

BRIEFITY—Identify by IEN - 4491 if you write the maker

WATSON-STILLMAN

PORTABLE PIPE BENDERS

Bends all standard, extra heavy and double extra heavy steel pipe from ¼ in. to 2 in. inclusive, as well as standard weight pipe up to 3 in. diameter. Also handles solid mild steel bars up to 2 in. diameter.

Write for Bulletin 47

WIRE ROPE SHEARS

W-S wire, cable and bar shears provide years of trouble-free general service. They are light and portable for convenient on-the-job use.

Write for Bulletin 48

HAND PUMPS

Single and double plunger types, with reservoirs of different capacities to suit the job, these hand pumps have a wide application for operating small hydraulic tools, jacks and other hydraulic equipment, and for general hydrostatic testing purposes.

Write for Bulletin 240-A

HYDRAULIC JACKS

These sturdy units, with other independent or integral pumps, are useful for many jobs in construction and maintenance. Capacities from 10 to 500 tons.

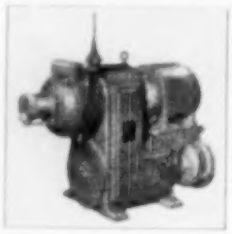
Write for Bulletin 710-A

Distributors Products Division
WATSON-STILLMAN
Roselle, New Jersey

BRIEFITY—Identify by IEN - 4492 if you write the maker

DRIVE . . Variable speed unit with hydraulic or pneumatic adjustment

Source: REEVES PULLEY CO.
800 N. Wilson St., Columbus, Ind.



New assembly of the company's No. 4000 to No. 7000 Motodrives can be specified with a built-in hydraulic or pneumatic cylinder and rotary operating valve for connection to a pressure source and to an actuating element. The latter can be based on change in speed, tension, liquid level, linear position, that will provide a force of a few ounces to move the valve lever. The former requires pressure of 60 to 100 lb. at the valve ports.

In a hydraulic installation the company supplies a self-contained motor-driven power unit to connect to the valve. A shop source supplies air pressure for pneumatic operation. In both cases movement of the valve is fed in with movement of the cylinder so there is no tendency to hunt when a speed change is called for. Each installation requires engineering layout and design which the company is prepared to supply. Driven now in service: Range is ¼ to 20 hp. with speed ratios in some cases the operating equipment can be added to Motodrive of 2 to 6 to 1 available in the line.

BRIEFITY—Identify by IEN - 4493 if you write the maker

MOTOR CONTROL . . Pushbutton switch for textile loom motors to 2 hp.

Source: CUTLER-HAMMER INC.
1378 W. St. Paul Ave., Milwaukee 1, Wis.

Loom Switch designates new pushbutton unit enclosed in a steel housing into which lint cannot penetrate. The switch mechanism includes overload protection, is positive-make quick-break design with mounting on a steel base that is floated on rubber for isolation from vibration. The design is available for polyphase motors rating to 2 hp. on 220 to 660 volt ac. power supply.

BRIEFITY—Identify by IEN - 4494 if you write the maker

PACKAGING . . Technical data on lacquers as applied to packaging materials and papers

Hercules Powder Co.
1940 Delaware Trust Bldg., Wilmington 99, Del.

Results of a research study on ultraviolet-machine materials are reported in new 32-page booklet, "Packaging and Paper Lacquers". Topics include formulations and materials, methods and test results, ternary diagrams. The information is intended as a guide to lacquer formulation to meet specific applications. One section describes standard moistureproof heat-sealing coatings.

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BRIEFITY—Identify by IEN - 4495 if you write the maker

Packets Securely, Durably Tied In An Instant with PULL FASTENERS

WON'T BREAK! CAN'T SLIP, ROT OR STRETCH!

Wherever valuable documents, checks and papers must be stored, use permanent Pull Fasteners to hold them firmly together, prevent their being removed or mutilated. Pull Fasteners are more durable, more economical, save time, speedily inserted and removed. Use for 4 Uses. Sold in packages of 100 at your dealer or by the manufacturer.

THE Schlegel MFG. CO.
277 NO. GOODMAN ST., ROCHESTER 7, N. Y.
SCHLEGEL CO., CANADA LTD., OAKVILLE, ONT., CANADA

BRIEFITY—Identify by IEN - 4496 if you write the maker

LEKTROMESH

THE UNIQUE SOLID METAL SCREEN

Distinguished for its

★ STABILITY in use
★ UNIFORMITY of Hole Size
★ WORKABILITY in Manufacturing Processes
★ DIVERSITY of Applications to Research and Production

Electrodeposited in pure copper, pure nickel, or nickel-on-copper or in regular commercial production with counts from 25 to 400 per inch — in lengths up to 100 feet and widths up to 36 inches — with tolerances on hole size and thickness suitable for the most critical uses — LEKTROMESH is ideal for precise filtration, for fabricated products such as fuel filters and electronic shields, even for distinctive decorative screens with an integral pattern. For full details let us send our Bulletin on LEKTROMESH. Address Department 12.

THE C. O. JELLIFF MFG. CORP.
SOUTHPORT CONNECTICUT

BRIEFITY—Identify by IEN - 4497 if you write the maker

A MUST! for PERMANENT MOLDING

Grafo

use GRAFOLUX

A GRAFO COLLOIDAL PARTING COMPOUND
That Insures
LONGER MOLD LIFE
EASIER PARTING
TOP PRODUCTION
SURFACE QUALITY

A WORKING SAMPLE SENT ON REQUEST

Other Grafo Colloidal Products Available for All Industrial Lubrication

"Grafo" Colloidal Graphite may be obtained in water, petroleum oil and castor oil, in concentrated, semi-concentrated and ready-for-use mediums.

Write Us Regarding Your Special Applications

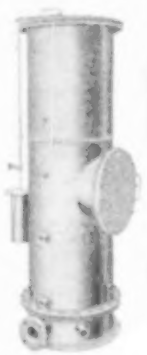
GRAFO COLLOIDS CORPORATION

MANUFACTURERS OF COLLOIDAL PRODUCTS

SHARON, PENNSYLVANIA

BRIEFITY—Identify by IEN - 4498 if you write the maker

MAXIM EVAPORATORS



Maxim Double Effect Evaporator-Distiller and underpass feed before being shipped.

REDUCE SCALING — LESS DOWNTIME
ALL MONEL FOR LONG LIFE

SEND FOR THIS BULLETIN

THE MAXIM SILENCER COMPANY
77 HOMESTEAD AVENUE HARTFORD 1, CONN.

▼ BRIEFITY—Identify by IEN-4499 if you write the maker ▼

Interlocking wires lace together to form a continuously flat and extremely flexible, open mesh, conveyor belting. Simple to install, it is positively driven, easily guided, readily cleaned and quickly repairable.

Available in cadmium plated or stainless steel; it can be supplied in light or heavy gauges, and in widths from 2". Special sizes, designed to your specifications, can be supplied at no extra charge. Most belts can be delivered from stock.

For typical applications and illustrated uses, write:

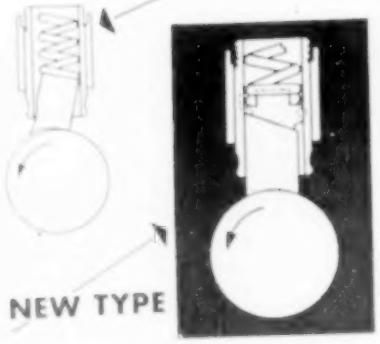
WIRE BELT COMPANY
OF AMERICA
750 Main Street, Cambridge 39, Mass.

▼ BRIEFITY—Identify by IEN-4500 if you write the maker ▼

DOUBLE BRUSH AND COMMUTATOR LIFE
INCREASE on-the-job time of your Product

GENERAL ELECTRIC SERIES MOTOR PARTS

now available with new **stabilized cartridge brush mechanism**, a development which doubles life of brushes and commutators. Here's how it works.



FOR YOUR CUSTOMERS

MORE	Output per unit Efficiency Security from motor failure
LESS	Maintenance Replacement cost Operating cost

You won't want to miss the opportunity presented by this new development to multiply your product efficiency. G-E application engineering service is yours for the asking. Contact your nearest G-E Sales Office for further information on the new Stabilized Cartridge Brush Mechanism or write Apparatus Dept., General Electric Co., Schenectady 5, New York.

GENERAL ELECTRIC

▼ BRIEFITY—Identify by IEN-4502 if you write the maker ▼

CALCULATING . . Circular slide unit for problems concerning gas compressors

Source: WILLSONN COMPUTERS
925 Central Ave., Oil City, Pa.

List price is $5 for this new 7½-in. bag-board-plastic unit for gas-compressor users for problems concerning capacity, horsepower, suction and discharge pressures, compression ratios, clearance, volumetric efficiency. Ranges are from 25 in. of vacuum to 2,000 lb. gage pressure on the suction side and from 0 lb. of vacuum to 10,000 lb. gage on the discharge side. Flow range is 20,000 to 1,000,000 cu. ft. per day on a 0.60 basis.

▼ BRIEFITY—Identify by IEN-4503 if you write the maker ▼

CONTROL . . Push-pull design .072 in. wire in wound wire casing

Source: KUPFRIAN MFG. CO.
200 Prospect St., Binghamton, N. Y.

Length is to specification in this new assemblies of push-pull control wire and wound wire casing. The casing is made of flat bronze wire on a .095 inside diameter with an outer jacket of vinyl plastic for an overall diameter of ⅛ inch. The other is made of .023 in. stainless steel wire with inside diameter at .190 in. and the outside at ⅛ inch.

▼ BRIEFITY—Identify by IEN-4504 if you write the maker ▼

JACK . . Ratchet puller unit for work handling and load binding

Source: NOLAN CO.
114 Pennsylvania St., Bowerston, Ohio

Model L designates new assembly of anchor chain, puller chain and ratchet-type lever-operated head. Moving the lever pulls in the chain to move a load or to bind one firmly in place. Rating is to 5 ton. List price is $29.50.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 51

▼ BRIEFITY—Identify by IEN-4505 if you write the maker ▼

Write that demonstrates how "Weathercote" more expensive lamp replacements.

THIS low cost all-purpose Amplex lamp saves expensive lamp replacements indoors or outdoors. Cuts lamp mortality up to 75%, where moisture, steam or outdoor weather kill ordinary lamps too soon. Costs just a fraction more than ordinary lamps.

DOUBLE DUTY A mercury-arc ultra-violet, 2500-hour lamp that cuts lamp requirements some almost in half. Perfect for tough jobs and hard to reach locations, and for rugged temperatures where ordinary lamps fail.

DELIVERS MORE LIGHT Pure silver-lined, weatherproof reflector lamps that deliver more light on the work area — that maintain maximum reflecting efficiency for the life of the lamp.

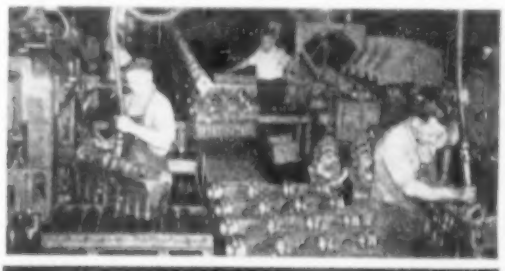
amplex

Write for catalog and sample lamps to Amplex Corporation, Dept. 35, 315 Water St., Brooklyn 1, N. Y.

industrial infra-red heat lamps • street lamps • fluorescent lamps • rough service lamps • vibration service lamps.

▼ BRIEFITY—Identify by IEN-4506 if you write the maker ▼

▼ BRIEFITY—Identify by IEN-4507 if you write the maker ▼



ENGINE PRODUCTION SPEEDED WITH VACUUM

Some years ago this manufacturer of auto engines installed a Spencer 7½ HP Stationary Vacuum Cleaner to pick babbitt out of engine heads as they passed by on the production line. Much time was saved and they reclaimed half a ton of babbitt a day. Now the plant is provided with overhead Vacuum connections wherever needed all along the production line.

Spencer is also used for removing or conveying liquids, fumes, powders and hot materials. 335-G

150 USES FOR VACUUM... ASK FOR BULLETIN
THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT
SPENCER

▼ BRIEFITY—Identify by IEN-4508 if you write the maker ▼

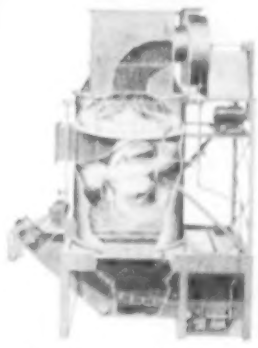
SUPPRESS DUST WITH WATER

and reduce every particle to harmless sludge!

Whiting Hydro-Cloonex Type CY — precipitates heavy particles in the pre-cleaner — then removes the fine particles in the acid tube and disintegrates action directly above the tube. The resulting sludge is directed to an automatic type tank, and all water is recirculated.

The water also removes obnoxious gases and dangerous fumes.

Hydro-Cloon Equipment has no cloth screens or bags to clean, burn, or wear out — no sprays nozzles to clog — no moving parts. Capacities from 1,000 to 90,000 cfm. Write for Bulletin FY-162. Also available in low headroom type — Bulletin FY-165.

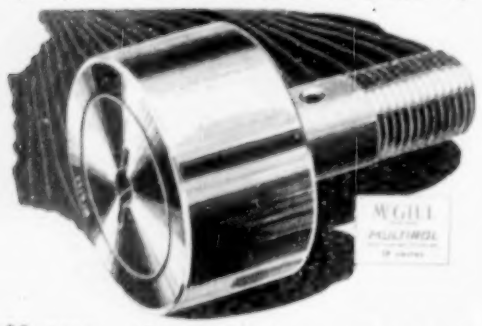


Cut-away view showing Hydro-Cloon system of cleaning and settling.

WHITING CORPORATION
15629 Lathrop Ave.
Harvey, Illinois

FREE

▼ BRIEFITS—Identify by IEN-4509 if you write the maker ▼



McGILL *adds anti-friction to ruggedness in* **CAM FOLLOWER** *design*

Compact with an extra heavy outer race section and a full complement of small diameter rollers, McGILL Cam Follower Bearings effectively absorb excessive shock loads frequently destructive to plain or ordinary ball bearing cam follower units. The CF Series McGILL Bearings are precision built with outer and roller carefully ground to close tolerances for the smoothest possible action and least friction. Bearing parts are accurately heat treated to insure toughness and load resistance.

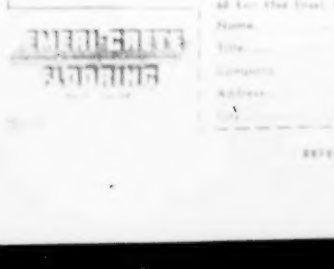
Retaining the rollers with "lock and roller" cam follower assemblies, McGILL Cam Followers are used extensively on automatic screw machines, rubber paper converting and packaging machinery, printing presses, felt trucks and all types of industrial machinery. Standard sizes from ½" to 4" available from stock.

McGILL Cam Follower Bearings are one of several Bearing Series built by McGILL Manufacturing Co., Inc. Consult McGILL engineers on your problems.

With Inc. Bulletin CF-40. McGill Manufacturing Company, Inc., 300 N. Lafayette St., Valparaiso, Indiana

▼ BRIEFITS—Identify by IEN-4510 if you write the maker ▼

HANSEN COUPLINGS



GIVE YOU **2** Big Advantages

● With Hansen couplings you save precious minutes every time you change air tools—every time you connect or disconnect a fluid line carrying air, liquid or grease.

To connect, you merely push plug into socket—flow starts instantly. To disconnect, pull back sleeve on socket—coupling disconnects—flow is shut off instantly and automatically.

Available in a wide range of sizes and types, each type engineered to meet the specific requirements of your particular application.

Hose nut shut off two circuits—off, and straight through type.

Write for Catalog

THE HANSEN MANUFACTURING COMPANY

4021 WEST 150th STREET • CLEVELAND 11, OHIO

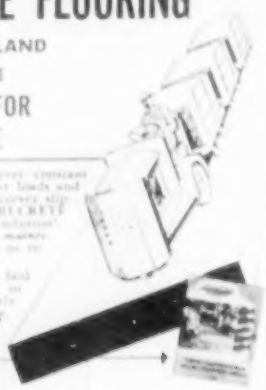
▼ BRIEFITS—Identify by IEN-4511 if you write the maker ▼

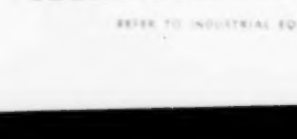
NO MAINTENANCE WITH

EMERI-CRETE FLOORING

MADE WITH CORTLAND EMERY AGGREGATE

DIAMOND-HARD FOR HEAVY-DUTY USE

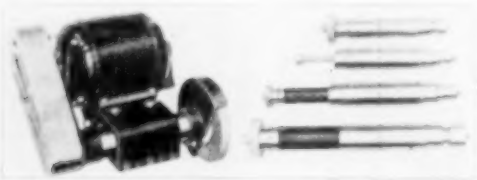




▼ BRIEFITS—Identify by IEN-4512 if you write the maker ▼

GRINDING . . Motor driven head for machine use, replacement spindles

Source: MAXWELL CO.
391 Broadway, Bedford, Ohio



Type III is a new motor-driven head assembly that includes a ½ hp. 110/220-volt 60-cycle single-phase ac. Master motor with belt connection to one of the company's new ball-bearing spindles and a mounting base for application on a lathe or other machine tool. Various arrangements for right- and left-hand operation, can be set up to meet given conditions.

Series H line gives the new companion line of ball-bearing spindles with body diameter at 2⅝ in. in four designs as shown in the illustration. One is intended for external work and operates at 3,450 rpm. The other three are primarily for internal grinding with maximum speed at 20,000 rpm. The company is prepared to supply the head equipped with desired spindles and also to supply the spindles alone for application to other grinding machines and heads.

▼ BRIEFITS—Identify by IEN-4513 if you write the maker ▼

MILLING . . Horizontal machine for end finishing work on tubes, bars

Source: PINES ENGINEERING CO.
638 Walnut St., Aurora, Ill.

Chamfering, turning, counterboring, drilling, boring, facing operations can be set up in this new machine for work ranging to 8 in. in diameter. The work is mounted in an air-operated vise and the motor-driven spindle in the head at the rear of the vise is fed forward and retracted by operating a hand lever. The spindle motor is equipped with a four-speed transmission for changing work diameter and surface of the tool. Series 200 is the designation of the new machine.

▼ BRIEFITS—Identify by IEN-4514 if you write the maker ▼

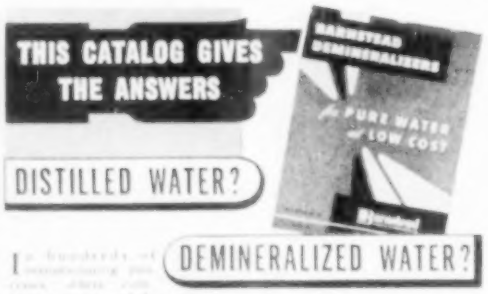
CASTINGS Reference chart lists data on 32 corrosion and heat resistant alloys

Source: Alloy Foundry Co.
212 Rice St., Hillside 5, N. J.

Designations, specifications, properties and analyses are given in new 8-page "Copper Alloy Data Reference Chart" on 32 stainless, corrosion and heat-resistant alloys supplied by castings. Most of these data are tabulated in a three-page section. A separate table covers high temperature properties.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

▼ BRIEFITS—Identify by IEN-4515 if you write the maker ▼



FREE

Barnstead
STILL & STERILIZER CO.

First in Pure Water since 1878

50 Lanesville Terrace, Forest Hills, Boston 31, Mass.

▼ BRIEFITS—Identify by IEN-4516 if you write the maker ▼

NOW A Soldering Gun for EVERY Requirement

NEW 250-watt WELLER

5-SECOND HEATING — RIGID TIP
LONGER REACH — STREAMLINED
SOLDERLITE — DUAL HEAT

Here is the money-saving aid that handles heavy-duty jobs and light, delicate work with the same ease and efficiency. Chisel-shaped RIGID TIP gives more soldering area for faster heat transfer—and is heated for heavy work. Extra length reaches into the tightest spots. Fast, 5-second heating saves time and current. "Over-and-under" position of terminals lets you see your work more with perfect-aimed spotlight. No need to unplug gun between jobs; power comes on only when you pull the trigger. Order from your distributor or write for bulletin direct.

SOLDERING GUIDE

Get your copy of "SOLDERING TIPS"—a new, illustrated 20 page booklet of practical soldering suggestions. Ask at your distributor's—or order direct.

WELLER MANUFACTURING COMPANY

823 Packer Street • Easton, Pa.

▼ BRIEFITS—Identify by IEN-4517 if you write the maker ▼

Are you looking for LOW POWER FACTOR with GOOD MOLDABILITY in a thermosetting material?

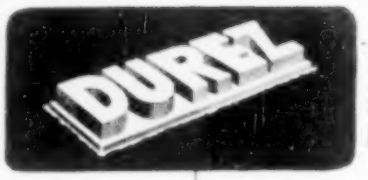
Good general characteristics combined with a really low dissipation factor have made Durez 12810 a favorite for many electrical parts. With a power factor of .001 at 1 megacycle (test material conditioned 48 hours at 90° C.), this mineral-filled phenolic also has good molding properties for a material of its type. Comparatively low specific gravity is an economy factor. The material meets the requirements of JAN-P-14 Type MTSE-1 specification.

Consider DUREZ 12810 for

RADIO TUBE BASES	X-RAY CABLE HOUSINGS	SWITCH PANELS RADIO AND TELEVISION	OTHER MOLDED ELECTRICAL PARTS

This material illustrates the Durez policy of developing specific phenolic compounds to satisfy precise needs of the electrical and other manufacturing industries. Durez plastics include the types that are most widely employed. Let them help to assure the qualities you want your finished products to have.

SEND FOR DATA—

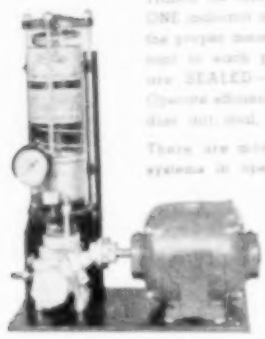


Phenolic Plastics that fit the job

PHENOLIC RESINS — MOLDING COMPOUNDS; INDUSTRIAL RESINS; PROTECTIVE COATING RESINS

▼ FREE!!! — Identify by IEN - 4519 ▼

Trabon Leads in AUTOMATIC LUBRICATION



Trabon oil and grease systems have ONE objective at the point of use—supplying the proper measured amount of lubricant to each point. Trabon systems are SEALED—no exposed parts. Operate efficiently when buried under dust, dirt, mud, water, or grease.

There are more Trabon automatic systems in operation than all other makes. Backed by 25 years of experience in engineering and installing lubrication equipment. Trabon has a system for any type or size machine. Write or call today. Trabon Engineering Corp., 1814 East 40th Street, Cleveland 3, Ohio.

Trabon
OIL AND GREASE SYSTEMS

▼ FREE!!! — Identify by IEN - 4520 ▼

PITTSBURGH air pressure tested COILS

Pipe Coils — Bends — Boiler Tubes

Built to your particular needs. Send blue print or rough sketch for Pittsburgh quotation. Also expansion jointed Wrought Headers, Welded Aluminum Radiators, Aluminum Tubes, Pipe Coils, Bends, Boiler Tubes. Get us quote.

Ask for Pipe Coil Data Book

Pittsburgh Pipe Coil & Bending Co.
61 BRIDGE STREET ETNA, PITTSBURGH 23, PA.

▼ FREE!!! — Identify by IEN - 4521 ▼

KINNEY

THE PUMP for TOUGH JOBS

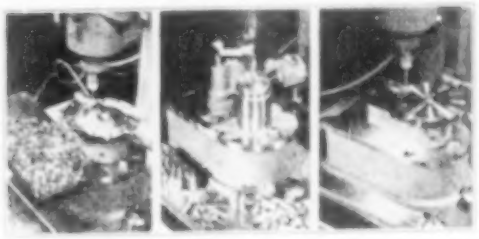
Kinney HG Rotary Pumps handle the toughest pumping jobs easily, efficiently, economically. These heavy duty units are designed for lifting, gear driven by a single hydraulic unit pump from that. The HG is not a gear pump — it is a positive displacement rotary unit designed to give true pumping efficiency handling a wide range of liquids from gasoline to molasses at various speeds. Available sizes in steel, stainless steel, capacities to 2,000 litres per hour. Write for Bulletin 149. Kinney Manufacturing Company, 3344 Washington St., Boston 30, Mass. Representatives in New York, Chicago, Cleveland, Philadelphia, Los Angeles, San Francisco, Seattle, New Orleans, Houston.

KINNEY Rotary PUMPS

▼ FREE!!! — Identify by IEN - 4522 ▼

INDEXING . . Pneumatic fixture to position work on a machine table

Source: SNOW MFG. CO.
433-7 Eastern Ave., Bellwood, Ill.



No. 11 is a new air-operated indexing fixture to mount a spring retainer, weighing approximately 10 pounds, upon a turbine piston. The piston contains 11 drill and tap holes to hold a work fixture on which parts are mounted. Work under 6 operations is performed. The fixture was designed to assist in the continuous production of drilling and threading an assortment of small parts. To operate an indexing arrangement, air is fed to each of the three bosses of the machine spindle. Entering against the fixture piston, it is 100 psi pressure.

The fixture in accordance with a modification of the index angle in a counterclockwise direction. After each successive of the top piston in the fixture. This piston in turn locks the fixture in each spindle work. It can be supplied with a spindle on which a single work piece can be mounted for drilling, tapping, countersinking or a variety of special jobs. The base measures 10 in. by 10 in. square and weighs. Height of the top piston is 6 in. from

▼ FREE!!! — Identify by IEN - 4523 ▼

PAINTING . . Fluid pump and heater for paint circulating to a spray gun

Source: BEDE PRODUCTS INC.
4309-13 Ridge Road, Cleveland 9, Ohio

Circulating Heater

This heater also incorporates a thermostatic control which maintains the temperature of the paint within a range of 5 degrees. Paint surrounds the heating element and is circulated through the heater by the pump. Paint returned to the heater from the spray gun is mixed with fresh paint from the supply tank and recirculated. The pump and heater are mounted on a portable cart. Dimensions of the heater are 6 in. by 6 in. by 12 in. high. Pump is 7 in. by 7 in. by 8 in. high. Overall dimensions of the cart are 24 in. by 24 in. by 36 in. high. Weight of the heater is 15 lb. and of the pump and cart 50 lb. Heater is rated at 1,000 watts, 115 volts, a.c. Pump is rated at 1/3 hp., 1,725 rpm., 115 volts, a.c. Capacity of the pump is 1 gal. per min. at 100 psi. Pump is equipped with a pressure relief valve.

All Models of Paint Sold for Circulating Systems Are Also Obtainable Without Heaters. Write for Literature.

▼ FREE!!! — Identify by IEN - 4524 ▼

HANDLING ADDS NOTHING TO YOUR PRODUCT VALUE

LET BRAINARD STRAPPING SPECIALISTS Show you Shortcuts to Lower Handling Costs

BETWEEN DEPARTMENTS

BETWEEN PLANTS

EXPORT OR DOMESTIC SHIPPING

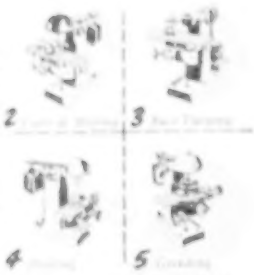
SHARONSTEEL

No Obligation Write Today

STEEL STRAPPING DIVISION
BRAINARD STEEL COMPANY
2135 Larchmont Ave. Warren, Ohio

▼ FREE!!! — Identify by IEN - 4525 ▼

One BENCHMASTER ANSWERS Five EVERY-DAY SHOP REQUIREMENTS

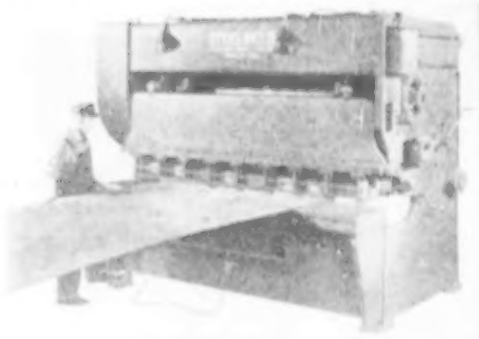


GET THE FACTS ON BENCHMASTER NOW!

Write Dept. IEN for circular

benchmaster
WORLD'S LARGEST PRODUCER OF SMALL POWER PRESSES

▼ FREE!!! — Identify by IEN - 4526 ▼



ALL STEELWELD SHEARS *Controlled Electrically!*

The Cleveland Crane & Engineering Co.
4209 East 282nd St., Wickliffe, O.

STEELWELD SHEARS

▼ FREE!!! — Identify by IEN - 4527 ▼

TANK HEATING AND COOLING COSTS LESS with...

PLATECOIL

LESS MAINTENANCE

MORE PRODUCTIVE CAPACITY

NO LOSS OF SOLUTION

PLATECOIL
Division
COLD-HOLD MFG. CO.
LANSING 4, MICHIGAN

▼ REFER TO—Identify by IEN - 4528 if you write the maker ▼

THE FAMOUS MULTIFORM BENDER CUTTER

Produces Without Special Tooling — Saves Die Costs
Saves on Expensive Presses

The illustration at the left shows just a few pieces produced on our famous Multiform Bender-Cutter. Its efficient machine is useful in all lines of trade.

No. 8 Air Model — FIVE-IN-ONE TOOL — BENDS FLAT, ANGLE, ROUND STOCK INTO ANY SHAPE WITH AND WITHOUT FLAT STOCK

J. A. RICHARDS CO. 307 NORTH PITCHER ST. KALAMAZOO 68, MICH.

▼ REFER TO—Identify by IEN - 4529 if you write the maker ▼

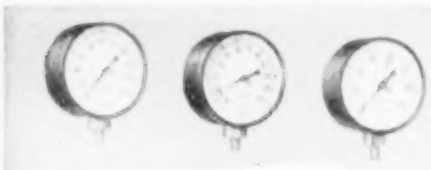
Humphrey GAS UNIT HEATER

A complete heating plant in itself, using no steam or water, the Humphrey Gas Unit Heater is ideal for heating factories, warehouses, stores and countless other places. A powerful fan circulates the heat to every corner of the room. Burns all types of gases. Made in sizes to fit every need.

Write today for complete information.

GENERAL GAS LIGHT COMPANY
KALAMAZOO, MICHIGAN

▼ REFER TO—Identify by IEN - 4530 if you write the maker ▼



1001 GAUGES to choose from

MARSH

▼ REFER TO—Identify by IEN - 4531 if you write the maker ▼

ROCK DRILLING . . Wagon drill positions to operate in any direction

Source: SCHRAMM INC.
800 E. Virginia Ave., West Chester, Pa.

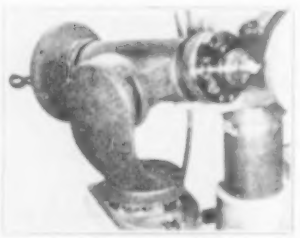
Type WDR-126 is the company's new Sixth Anniversary wagon drill with capacity to drill in any direction to a depth of 21 feet. The machine is equipped with a 4-in. drifter and centralizers are fixed so none is unnecessary in order to move from one hole to another. Only one change the setting for hand to make a full shot change. Feed lengths can be drilled at any point from 2 in. to 9 ft. above ground level. A motion then jack screw raises and lowers the U-bar to desired position.

The main wheels swing through 90 deg. for fast drilling and 180 deg. to obtain a narrow tread to operate in confined spaces. The wheels lock in set position and hold them until they are released. Feed travel is through 60 inches. Chuck size is 1¼ inches. Greatest width is 72 inches. Air-line connection is 1¼ inches. Overall length is 9 feet.

▼ REFER TO—Identify by IEN - 4532 if you write the maker ▼

GRINDING . . Indexing fixture to sharpen countersinks, pilot cutters

Source: ANGLE COMPUTER DIV.
1707-11 Standard Ave., Glendale 1, Calif.



Model 100-E is the latest design of the company's previously developed indexing fixture in which a cam controls axial movement during rotation to produce required relief on a cutter. The fixture applies right or left hand, left of the cam is variable between 0° and 15° for rake or clearance angles in addition to relief.

Built in pins permit indexing setup for cutters with 1, 2, 3, 4, 6 and 12 flutes. The work is held in a collet chuck capacity ⅛ to 1 in. with standard collets.

▼ REFER TO—Identify by IEN - 4533 if you write the maker ▼

NICKEL ALLOYS . . How they are used in tractors and farm implements described in booklet

International Nickel Co.
67 Wall St., Rm. 2918, New York 5, N. Y.

H. L. Geiger, engineer with the company's Development and Research Division, is author of new 32-page booklet "Nickel-Containing Materials in Tractors and Farm Implements." The booklet tells what alloys are employed and why in applications such as engine parts, drive components, electrical equipment, wear-resisting parts, frames, springs.

All Makers of Items And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 50

▼ REFER TO—Identify by IEN - 4534 if you write the maker ▼

AIR CONTROL VALVE

- ROTARY TYPE
- HAND LAPPED
- ¼" PIPE PORTS
- 3- or 4-WAY
- LOW-PRICED

NP

NATIONAL PNEUMATIC CO., INC.
Industrial Division
Boston • Graybar Bldg., New York • Chicago

Pneumatic Specialists Since 1909

▼ REFER TO—Identify by IEN - 4535 if you write the maker ▼

Here is a new tubing with a new synthetic coating of General Electric Permafil or Fiberglas braid that is . . .

So FLEXIBLE that it can be twisted, bent, wrapped, tied in knots . . . without cracking or peeling.

So TOUCH that severe use will not destroy its dielectric property.

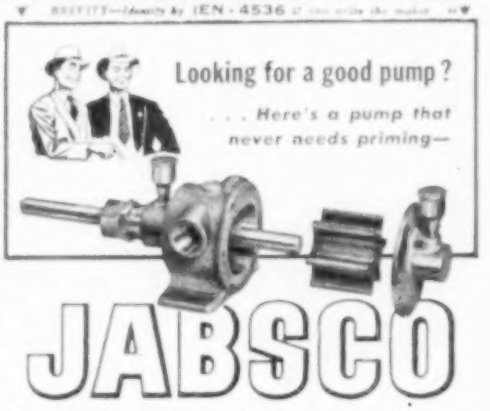
So HEAT-RESISTANT that it will withstand high temperatures, and can be after-treated in baking and varnishing operations.

Varglas Permafil is made in standard colors, in a wide range of sizes. It is available in coilpacks that you can cut the exact lengths you need, without waste.

And . . . it is a premium tubing at a reasonable price. Write today for free sample and full information.

VARFLEX CORPORATION
306 N. Jay St. Rome, N. Y.

▼ REFER TO—Identify by IEN - 4536 if you write the maker ▼



the pump with the RUBBER *(all resistant)* **impeller!**

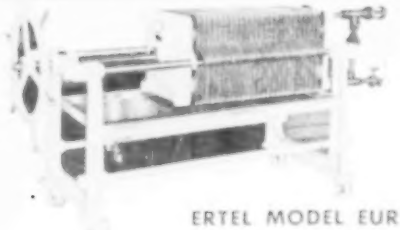
Instantly self-priming at all speeds at all times — at all speeds — Jabsco pumps are simple, rugged, and efficient. The pump's only moving part, a flexible, synthetic rubber impeller, creates a positive and powerful suction for instant self-priming. Jabsco's patented pumping action is so simple, so sure, it can't go wrong. Mounted at any angle — completely reversible — compact — self-lubricated — easy to install — Jabsco pumps are excellent in a variety of farm, food, chemical, marine, and industrial uses! Available in 8 sizes from ¼" to 1½" — in bronze and several models in stainless steel. For new pumping efficiency — for carefree performance — specify Jabsco pumps — the pump that never needs priming! For more information, for complete data sheets, write us —

JABSCO PUMP COMPANY
2031 N. Lincoln Street Burbank, California

▼ REFER TO—Identify by IEN - 4537 if you write the maker ▼

HARD RUBBER FILTERS

THE ANSWER TO THE ELIMINATION OF METALLIC PICKUP & FOR USE WHERE LIQUID TO METAL CONTACT IS OBJECTIONABLE



ERTEL MODEL EUR

ERTEL ENGINEERING CORPORATION
KINGSTON NEW YORK

MANUFACTURERS OF HIGH GRADE ERTEL ASBESTOS FILTER SHEETS, ASBESTOS SHEET FILTERS, CYLINDER TYPE DISC FILTERS, PYROGEN FILTERS, VACUUM BOTTLE FILLERS, MIXERS, CAPPERS, CENTRIFUGAL AND SELF-PRIMING STAINLESS STEEL PUMPS

▼ RAPIFIT—Identify by IEN-4538 if you write the maker ▼

FUMES • • HEAT DON'T BOTHER LINK-BELT OVERHEAD CONVEYOR TROLLEY

Severe service conditions are being met constantly by Link-Belt Conveyor Trolleys, as galvanizing, plating and painting processes and in many other operations where heat, fumes and vapors are present.

With ball bearing wheels, free from cages and accessories lubricated and sealed, drop-forged hook-ons for higher load ratings, operation is smooth, quiet, and requires minimum maintenance. Trolleys can be assembled to universal chain while in operating position. Low initial cost and extremely long life expectancy.

Send for Folder No. 2241-B

LINK-BELT COMPANY

▼ RAPIFIT—Identify by IEN-4539 if you write the maker ▼

SAVE UP TO 66%

with ALCOA ALUMINUM Machine Screws

If you are now using corrosion-resistant machine screws, chances are you can make major savings—ranging all the way up to 66%—in some cases, by switching to Alcoa Aluminum Machine Screws. Check prices handily today!

• • •

For wood or plastic assemblies—and of course for fastening aluminum itself—find Alcoa Aluminum. Fasteners give you corrosion resistance at rock bottom cost. Which means that always, extra finish expenses added to trim appear.

Fastenings made of a tough Alcoa alloy, they stand up strong and tight. Assembly with either tools or fingers proves to all hand stylers.

Alcoa makes, stocks and sells a complete line of mounting-assembly fasteners for boring contacts, jacks, mounting, chains and cotter pins.

FREE SAMPLES. Write Alcoa for samples and prices of the types with which you're interested in. Aluminum Company of America, 2210 Gulf Building, Pittsburgh 19, Pa.

THE LOWEST-COST CORROSION RESISTANT FASTENERS ARE

ALCOA *Aluminum* FASTENERS

▼ RAPIFIT—Identify by IEN-4541 if you write the maker ▼

CONVEYING . . Live roller section employs motor driven belt under rolls

Source: METZGAR CO.
417 Douglas St., N. W., Grand Rapids 4, Mich.

Objects for hot to handle on a hot or with sharp edges that would cut a belt are turned forward by power to upward incline to bridge. Automatically, or are extended to downward incline to bridge to this base. Use of conveyor. The assembly consists of a line of 16 ball bearing rollers mounted on a belt that is driven by a geared head motor at one end. The roller face of the belt rides on bearings mounted in adjustable channel brackets with the top rollers.

Construction is rather open to the engineer below the channel arches to expose the channels or grates or with the metal legs above the conveyor. Two sizes of conveying units. Widths range from 18 in. to 42 in. Roller spacing can be specified at 12 in. or 24 in. Length is as specified by you. The belt for 42 in. conveyor rollers and the channels in the conveyor have an 8 in. Their operation is by the 1/4 in. Motor suggested here and it operates per hour on a No. 1 compatible wound.

▼ RAPIFIT—Identify by IEN-4542 if you write the maker ▼

SIGNALING . . Electronic speaker and recorder repeats recorded message

Source: GENERAL ELECTRIC CO.
1949 Electronics Park, Syracuse 1, N. Y.

Narrator [illegible] the [illegible] a [illegible] [illegible] [illegible]

▼ REFER TO—Identify by IEN-4547 ▼

• The instantaneous and effortless setting, and guaranteed positive locking of the amazing "Grip-Master" Screwless Vise add up to new savings on hundreds of drill press and production line operations. "Grip-Master" also makes an ideal base-structure for jigs and fixtures. Hammer blows will not budge its tenacious grip obtained by an effortless press on the locking-lever. Built-in parallels level work instantly. Write today for full information and prices on the "Grip-Master" line, or ask your Dealer for a demonstration.

NATIONAL MACHINE TOOL COMPANY
DEPT. 170-D RACINE, WISCONSIN

▼ REFER TO—Identify by IEN-4548 ▼

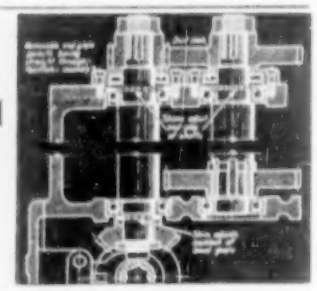
They join pipe in 30 seconds!

Dresser "No-Thread" Fittings join pipe permanently in less time than it takes to tell about it. Simply slide a fitting over plain pipe ends, tighten nut nuts with a wrench. That's all. No threading to weaken pipe wall. No exact pipe fitting or shaping needed. Resilient gaskets absorb vibration, expansion, contraction. Use on gas, oil, air and water lines from ½" to 2". I.D. Write today for catalog.

DRESSER "NO-THREAD" FITTINGS

▼ REFER TO—Identify by IEN-4549 ▼

Answer to
GEAR MESH
and
END-PLAY
problems



If you're wasting time and tying up a standby lathe . . .

Simplify your precision adjustments with LAMINUM shims

LAMINUM
.001 SOLID SHIM STOCK FOR ADJUSTMENT

LAMINATED SHIM COMPANY, Inc.
2105 Devon St., Woodside, Conn.

SHIMS • SHIM STOCK • STAMPINGS • AN-COR-LOX NUTS

For Your Special Information

How do your employees WANT to invest their savings?

1,275,000,000
SERIES-E
SAVINGS BONDS

In 1940 some 27,000 companies and 4,500,000 employees were in the Payroll Savings Plan.

In 1949 some 21,000 companies and 8,000,000 employees participated in it.

CANADIAN INTERNATIONAL TRADE FAIR IEN 5-13

Industrial and commercial goods ranging from toys to tractors to large machine tools will be on display in Toronto from May 29th to June 9th for Canada's Third Annual Trade Fair. Products of some thirty nations will be exhibited with United Kingdom manufacturers accounting for about 70 per cent of the total space. Largest exhibit will be the cooperative assembly of British tools, machine tools and scientific instruments. Contact R. M. Williams, Publicity Section, International Trade Fair, Toronto, Canada, if you want detailed information on the Fair.

BUDDY POPPIES ON MEMORIAL DAY IEN 5-14

Watch for the Buddy Poppy Sale during the week of May 30th. Remember when you buy one you are helping to care for needy ex-service men and their dependents. Each poppy is a reminder of a soldier or a sailor or, an airman who did not come back.

IEN IN MICROFILM FOR 1949 IEN 5-15

University Microfilms, 313 N. First St., Ann Arbor, Mich., is prepared to supply you with a reproduction of all of the issues of Industrial Equipment News for 1949 on a reel of film. Film for reading is read in any standard film viewing equipment. The service operates on a yearly basis, is available for continuing subscriptions. Let them run the complete issue at about $20.

SUGGESTION IEN 5-16

Turn to the start of the index in this issue, on the facing page turn to back cover. Read the little four point suggestion printed there on how to find what you need in this or any issue of IEN. You may like the ideas. We have found them to save time and to provide adequate coverage of all subjects.

SUFFICIENT INFORMATION IEN 5-17

A current tendency on the part of many manufacturers is to issue preliminary information when data is developed, a new product is in process but information for publication is lacking, too premature to permit matching specifications. This can result in a lot of things to interesting space when their issues come. Interesting, after-publication articles of the product itself are not available for study.

That is why **we make every effort to get manufacturers** to issue preliminary information with sufficient data to permit matching specifications. When [illegible] IEN [illegible] we are assured that the [illegible] will be published. Then [illegible] we are assured that the [illegible] will be published.

I WISH I HAD IEN 5-18

If you do not find what you want by using these pages or your own efforts, write us about it through "Your Inquiry Can Be Of Help" page. Tell us what you want to buy, what you want to know about. Your inquiry will be published in the next issue of IEN. If we can't help you, we will tell you why. If you have a suggestion, write us about it. We'll be glad to hear from you.

▼ REFER TO—Identify by IEN-4550 ▼

THOMAS' REGISTER
of
American Manufacturers

$15.00 F.O.B. New York
Renewal $12.50

7,900 pages of vital information to facilitate effective purchasing of all products made in U. S. A.

96% ABC Paid Circulation

THOMAS PUBLISHING COMPANY
461 EIGHTH AVENUE • NEW YORK 1, N. Y.

▼ REFER TO—Identify by IEN-4551 ▼

You Should Try
CHAMPION AIR HOSE

Falling objects bounce off Champion Air Hose like a rubber ball without cutting through the resilient safety cover.

A high-grade braided hose built with its oil resistant Regiene tube, Republic Rubber's Champion Air Hose has long been a favorite for tough going. Now, new processing methods provide added features of strength and durability.

Special chemically treated yarn for the carcass is carefully processed under tension before being braided. The special process gives the reinforcing material more tensile strength and provides a hose that maintains its original length.

With a thick tan cover to resist cutting, abrasion and wear, Republic Champion is available in braided molded cover construction in 50-foot lengths.

Contact your Republic Distributor or write Republic Rubber Division, Inc., Dept. for more complete news about this improved air hose.

MECHANICAL RUBBER GOODS BY
REPUBLIC RUBBER DIVISION

REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN, OHIO
LEE DEFENSE TIRES & TUBES, CONSHOHOCKEN, PA.

▼ REFER TO—Identify by IEN-4552 ▼

PANGBORN Hydro-Finish

gives you . . .

- **Better Paint Jobs**
- **Better Electroplating**
- **Better Finishing**
- **Better Products**

Slash finishing costs to rock bottom in your plant! Amazing Pangborn Hydro-Finish cleans far faster than hand methods, yet holds tolerances to .0001"! Hydro-Finish cannot harm your product's sharp edges or corners. Forms a perfect "bond" for new part electroplating, finishing or painting.

Hydro-Finish makes threaded parts turn easily . . . forms millions of little "oil pockets" in lubricated pieces to prolong product life. Fatigue failure is reduced because Hydro-Finish removes or blends grinding lines, etc.!

Hydro-Finish is also valuable in your tool room, reduces production tools and dies to a fraction of the time needed for expensive hand cleaning.

WRITE TODAY for Bulletin 1100, Contains full facts on Pangborn Hydro-Finish and Pangborn's Abrasives. For your free copy, address: Pangborn Corporation, 1290 Pangborn Blvd., Hagerstown, Maryland.

Pangborn

BLAST CLEANS CHEAPER with the right equipment for every job

REFER TO INDUSTRIAL EQUIPMENT NEWS IN YOUR INQUIRIES TO MANUFACTURERS SO THEY CAN SEND SPECIFIC INFORMATION

▼ REFFITT—Identify by IEN-4554 if you write the maker ▼

This kitchen floor may
SOLVE YOUR FLOORING PROBLEM

One important reason Tile-Tex® Plastic Asbestos Tile was chosen for the above office is because of its exceptional grease resistance.

Chances are you, too, have tile floors in work areas, too where oil and grease from machines and tools hit the floor.

And you can watch it crumble, disintegrate with other ordinary tiles in walkways, heavy traffic areas with materials handling trucks . . . cost, maintenance . . . quick installation . . . long service life . . . adaptability to functional or decorative design.

If these are what you want in floors then industrial flooring you can't do better than to specify Tile-Tex. It gives you all these and other qualities that add up to a great deal of floor for your money.

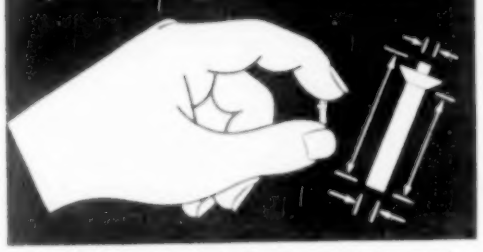
Get the complete story on Tile-Tex and how it can help solve your flooring problems. Write THE TILE-TEX DIVISION, The Flintkote Company, Dept. I, 1241 McKinley St., Chicago Heights, Ill.

OFFICE AREAS BRIGHTEN UP WITH FLOORS OF TILE-TEX . . . THE QUALITY ASPHALT TILE

TILE-TEX FLOORING PRODUCTS

▼ REFFITT—Identify by IEN-4555 if you write the maker ▼

SPECIFY Hassall
specially engineered fasteners



Hassall cold-headed fasteners can improve your products and save you money, even on short runs. Send us your specifications for your nails, rivets and screws . . . in diameters from 1/32" to 3/8" . . . lengths to 7" . . . in any workable metal . . . in practically any finish.

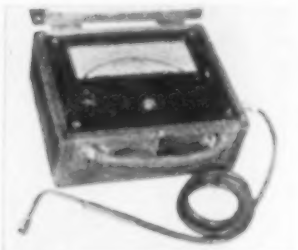
◆ Your inquiry will be handled promptly. Ask for free catalog.

JOHN HASSALL, INC.
132 Clay Street, Brooklyn 22, New York

▼ REFFITT—Identify by IEN-4557 if you write the maker ▼

PYROMETER . . Portable instrument for surface range from 0 to 150 deg. F.

Source: ILLINOIS TESTING LABORATORIES INC.
418-22 N. LaSalle St., Chicago 10, Ill.



Type 2300 is a new pyrometer for surface temperature readings in the low range from 0 to 150 deg. F. It was developed to check the action of hot water heating units. It will find wall and ceiling temperatures in panel heating, to measure temperatures of refrigerating coils, machines and conveyor surfaces.

The instrument employs a special thermocouple with soft copper tips to assure its holding a flat against the surface being tested. Colored adjustment is given to holding the thermocouple against a test block for the instrument's housing. The meter mounts a 6" in. instrument scale. The test instrument is set to a line of five with overall range between minus 60 and plus 400 deg. F.

▼ REFFITT—Identify by IEN-4558 if you write the maker ▼

FLOORS . . Surfacing material for use on old or new concrete floors

Source: FLASH-STONE CO.
3721-5 Pulaski Ave., Philadelphia 40, Pa.

Particularly good for floor patching

Emerite, made from natural aggregates of crushed quartz, quartz, hardened mineral and cement for mixing with water to the fast and economical to thicknesses averaging ½ inch. The material is applied dry to 100 lb. paper bags. The applied material cures for many months to a hard, resistant to attack by acids and caustic alkali garbage containers.

▼ REFFITT—Identify by IEN-4559 if you write the maker ▼

LIGHTING . . Cluster fixture mounts seven spot or flood lamps

Source: BRIGHT LIGHT REFLECTOR CO.
1728-32 State St., Bridgeport 5, Conn.

New design of the company's Beam-A-Line directional holders of the sealed beam spot and flood lamps is announced by the company. The new type take the 100-watt PAR 38 spot or flood lamp and the 300-watt R-40 flood lamp. The new design employs cast alloy aluminum with an inside

Units weigh 28 lbs. less than previous light assembly.

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30

▼ REFFITT—Identify by IEN-4561 if you write the maker ▼

A completely new, modernized, geared lathe with 10" swing, designed for the efficient machining of small precision parts. Ideal for all types of manufacturing, experimental and maintenance work. Built in 4 models, up to 4 feet lengths. Tools and attachments available.

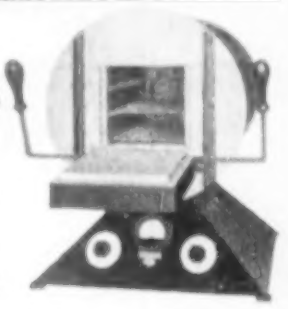
Write for information on 9" and 10" Light Lathes with 12", 14", 16" or 18" swings, 14" Drill Presses, Bench Shapers, Tools and Attachments. Indicate your line of interest in which you are interested.

SOUTH BEND LATHE
Building Better Tools Since 1906
SOUTH BEND, INDIANA

▼ REFFITT—Identify by IEN-4562 if you write the maker ▼

HEVI DUTY ELECTRIC COMPANY

A New
HEVI DUTY
TEMPERING FURNACE
That Gives You Many Advantages in Temperatures From
300° F. to 1250° F.



Type 07718, inside dim. 7" W. x 12" L. x 7" H.

- Uniform Heating With High Speed Circulation
- Less Heat Loss — Improved Insulation and No Rheostats
- Better Control Through a 36 Step Tap Changing Transformer Built Into the Pyramidal Base
- Indicating Pyrometer Mounted on Panel With Tap Switches
- Easily Removed Alloy Baffle
- Dependable Multiple Unit Heating Elements

WRITE FOR BULLETIN LAB-1049.

HEVI DUTY ELECTRIC COMPANY
(Manufacturers Standard) MULTIPLE UNIT (Quality Controlled)
MILWAUKEE 1, WISCONSIN

▼ REFFITT—Identify by IEN-4556 if you write the maker ▼

LOSTRO SAVE TIME, MONEY AND LABOR
MINUTE OIL CHANGER

SUPER-SPEED ACTION. New, powerful vane rotor, self-priming pump takes out old oil on a reversible at rate of almost 2 gallons per minute.

EASY TO OPERATE. Simply insert tube in dip stick opening, or crankcase and press trigger.

HIGHLY EFFICIENT

COMPACT SIZE

Weighs only 5 lbs. Easily carried to machine.

Operates on 110 volt AC or DC.

NEW LOW PRICE
$49.50

LOSTRO, INC.
NEWTOWN, CINCINNATI, OHIO

▼ REFFITT—Identify by IEN-4560 if you write the maker ▼

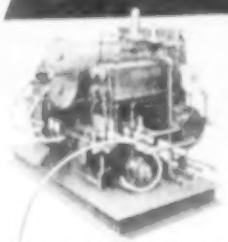
HERE'S YOUR *Complete* STEAM PLANT

A complete steam plant backed by authorized responsibility. Designed completely assembled. More than 80% thermal efficiency guaranteed. Space-saving design goes into Type H oil burning package boiler for 6 to 30 p. Rated at 70 pounds steam pressure. Superheated steam temperatures. Large water storage capacity. Quiet operation. Power fuel consumption. Low operating cost. Simple, safe operation using power supplied by a 1/2 horse power, 60 cycle, 1725 r.p.m. motor. Approved by A.S.M.E. for operation at 70 lbs. p.s.i. or less with water heating.

Superior STEAM GENERATOR

▼ REFFITT—Identify by IEN-4563 if you write the maker ▼

ROPER SERIES H PUMP



INTEGRAL PART OF THE
PEABODY
AUTOMATIC BURNER

Heavy fuels used in industrial boilers must be supplied at the right temperature and correct viscosity to give maximum burner efficiency. That is one reason why Peabody depends on Roper Rotary Pumps.

QUIET, DEPENDABLE OPERATION . . . 4-PORT DESIGN

Smooth operating, dependable pump with 4 port design for easy installation, ease and economy. Fully approved piping arrangements for 1/2, and 3/4 hp 1725 r.p.m. motors. Capacities to 5 G.P.M. gpm. Pressures to 150 P.S.I. Pump and construction features

Send for Literature Today!

GEO. D. ROPER CORP.
205 Blackhawk Park Ave.
ROCKFORD, ILLINOIS

ROPER Rotary Pumps

DEPENDABILITY SINCE 1857

BRIEFITS—Identify by IEN-4564 if you write the maker

LARGEST, MOST VARIED STOCK IN U.S.A.

FREE NEW 44 PAGE CATALOG

Take it up with

LAVELLE Rubber Company

1411 WEST HUBBARD STREET, CHICAGO 22, ILLINOIS

BRIEFITS—Identify by IEN-4565 if you write the maker

Now Available for Oil Hardening

Brown & Sharpe Ground Flat Stock *in entire range of thicknesses*

We urge buying through the Distributor

BROWN & SHARPE

BRIEFITS—Identify by IEN-4566 if you write the maker

Here's News of Importance to All Quantity Users of Springs

ACCURATE SPRING MFG. CO.

1625 W. LAKE ST. • CHICAGO 24, ILL.

Precision Springs Since 1910

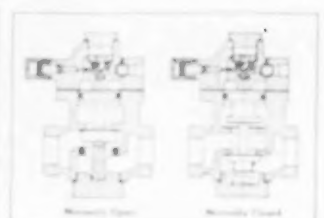
Accurate Springs

Wire Forms • Stampings

BRIEFITS—Identify by IEN-4567 if you write the maker

VALVE . . Pressure operated, adjustable delay, two- and three-way

Source: ROSS OPERATING VALVE CO.
118-22 E. Golden Gate Ave., Detroit 3, Mich.



BRIEFITS—Identify by IEN-4568 if you write the maker

TRUCK . . Power lift design, engine drive, rates 1 ton at 24 in.

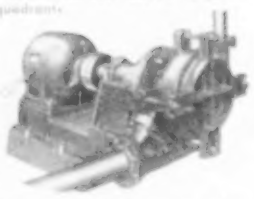
Source: BUDA CO.
15401 S. Commercial St., Harvey, Ill.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BRIEFITS—Identify by IEN-4569 if you write the maker

Only the New TYPE "R" MORRIS SLURRY PUMP has these 4 features

1. Gland is under suction pressure only. This feature practically eliminates packing troubles.
2. For dismantling, you need remove only four bolts. No internal studs or bolts . . . no troublesome fits or joints.
3. You can remove impeller and liner without disturbing piping.
4. Shell interchangeable for right or left-hand rotation. Suction and discharge nozzles can be rotated to positions in any of four quadrants.



MORRIS CENTRIFUGAL PUMPS

BRIEFITS—Identify by IEN-4570 if you write the maker

The KENT Combination

Dry Suction Cleaner and Electric Mopper

* FOR DRY PICK-UP
* FOR WET PICK-UP

WITH THE KENT FLOOR MACHINE, the KENT Combination makes the perfect "Fast Cleaning Team".

Write for Literature to:

CLEAN WITH KENT EQUIPMENT

THE KENT COMPANY • 437 CANAL ST. • ROME, N. Y.

BRIEFITS—Identify by IEN-4571 if you write the maker

DOLLIES, SKIDS, TRUCKS

Built to meet all tough requirements

THE "HANDY"

BARREL SKIDS

● IRONBOUND DOLLIES

● The Rolltruk will "pick up and go" with paper rolls, drums, materials, etc. Available in several models with capacities ranging from 500 to 2000 lbs. Ask for illustrated bulletin 1041.

IRONBOUND BOX & LUMBER COMPANY

50 HOFFMAN PLACE • HILLSIDE, N. J.

SKIDS • SEMI-LIVE SKIDS • DOLLIES • FLOOR TRUCKS

BRIEFITS—Identify by IEN-4572 if you write the maker

ORIGINAL BOWES COUPLINGS

● POSITIVELY LOCKED
● INSTANTLY CONNECTED

Pressure Seated AIR VALVES

NIPPLES
FITTINGS
BLOW GUNS

All your airline requirements at one source

. . . Write for new catalog describing complete line.

THE UNITED STATES AIR COMPRESSOR COMPANY

5300 Harvard Avenue • Cleveland 5, Ohio

▼ FREE!!!—Identify by IEN-4573 ▼

INVINCIBLE
Vacuum Units Reclaim:

Salts broken glass chemicals coffee cork crushed stone dirt explosives fabricated parts fertilizer flour fly ash fly lint frit gold grindings lead liquids nuts paper dust plastics pits rovelings sand sawdust silica dust soap shot soapstone spicers sugar talc and MANY MORE.

By recovering or reclaiming almost anything that will pass through a vacuum line, Invincibles quickly repay their costs.

Invincibles also serve as vacuum cleaners, keeping plants clean, safe and more productive by removing all industrial dust and dirt. . . Over 100,000 units are in use—5,000 for over 25 years.

Ask for FREE BOOKLET illustrating uses of Invincible Vacuum Units.

INVINCIBLE VACUUM CLEANER MFG. CO.
DOVER, OHIO

▼ FREE!!!—Identify by IEN-4574 ▼

WHEN YOU'RE

"IN A PICKLE"

FULLERGRIPT BRUSHES

INSTALLED IN ROCKWELL BRUSH BOX

SCRUB CLEAN

Typical of the equipment designed and built for the metal working and metal finishing industries by the W. S. Rockwell Company of Fairfield, Connecticut is the Rockwell Brush Box used in connection with a continuous strip anneal and pickle line to produce a clean, bright finish on brass strip. Into this machine Rockwell engineers have built four power driven Fullergript brushes. The brush material is stainless steel wire anchored in a stainless steel backing strip to withstand the corrosive effect of the pickling or cleaning solutions. The brush assemblies are mounted on roller type stainless steel self-centering supports for quick and easy removal of the brushes. The same set up can be used for dry brushing metals that have a very light film of dirt or very light oxide not requiring a pickle.

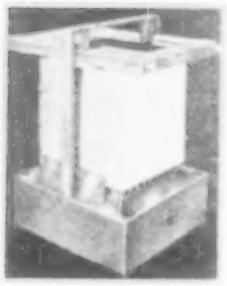
Fullergript power brushes offer similar production economies in a wide variety of industries. It will pay you to investigate the possibilities of Fullergript for your own plant. Simply write us.

THE FULLER BRUSH COMPANY
INDUSTRIAL DIVISION 3588 MAIN STREET, HARTFORD 2, CONN.

▼ FREE!!!—Identify by IEN-4576 ▼

CUTTING . . Hot wire machines to cut dry ice into slabs and cubes

Source: FOSTER-BUILT BUNKERS INC.
755-9 W. Polk St., Chicago 7, Ill.



Dry Ice Slicer is a new device for cutting dry ice into slabs and cubes. It consists of a heavy steel frame with a hot wire stretched between two arms. The wire is heated by passing an electric current through it. The operator places a block of dry ice on the base and pulls the wire through it. The wire melts its way through the ice, producing a clean cut. The machine is available in various sizes to accommodate different thicknesses of ice. The hot wire is heated by a transformer which reduces the voltage to a safe level. The machine is portable and can be moved easily. It is suitable for cutting dry ice in packaging, shipping, and storage operations. The machine is available in various sizes to accommodate different thicknesses of ice. The hot wire is heated by a transformer which reduces the voltage to a safe level. The machine is portable and can be moved easily. It is suitable for cutting dry ice in packaging, shipping, and storage operations.

▼ FREE!!!—Identify by IEN-4577 ▼

HEATING . . Alcohol blow torch rates to 2,700 deg. F. for brazing

Source: LENK MFG. CO.
28-40 Cummington St., Boston 15, Mass.

List price $7.50. The torch is designed for use with alcohol as a fuel. It is suitable for brazing, soldering, and heating. The torch is available in various sizes to accommodate different thicknesses of metal. The torch is heated by a transformer which reduces the voltage to a safe level. The torch is portable and can be moved easily. It is suitable for brazing, soldering, and heating. The torch is available in various sizes to accommodate different thicknesses of metal. The torch is heated by a transformer which reduces the voltage to a safe level. The torch is portable and can be moved easily. It is suitable for brazing, soldering, and heating.

▼ FREE!!!—Identify by IEN-4578 ▼

WELDING . . Grounding device for arc circuit in tank welding work

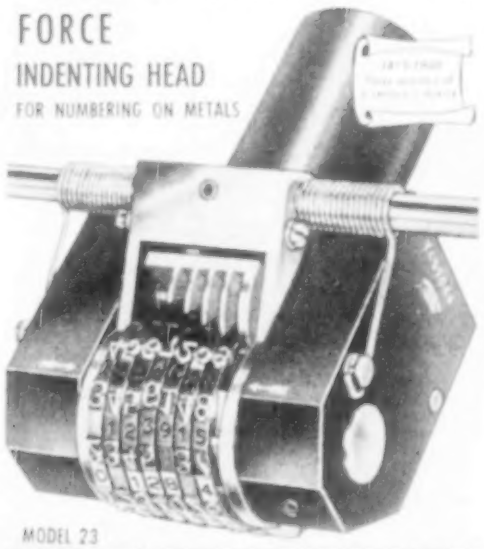
Source: MAGNETRODE CORP.
1706-10 Main St., Kansas City 8, Mo.

Magnetrode No. 1200 is a new assembly of magnetic chain or bar supported on a flexible adjustable stand to make grounding contact between a tank set up for rotation or arc welding operation. Rotation of the tank is accomplished by rolling turntables of the chain to maintain good contact. The unit is adjustable through 11 inches. It weighs 40 lb. and is rated at 1,200 amps.

All Makers of Items And All Other Products Are Listed In THOMAS REGISTER Directories — Listings — See Page 50

▼ FREE!!!—Identify by IEN-4579 ▼

FORCE
INDENTING HEAD
FOR NUMBERING ON METALS



MODEL 23

Indenting numbering head for power presses. Other models in stock or specially designed. Write for catalog "F"

WM. A. FORCE & COMPANY
INCORPORATED
216 NICHOLS AVENUE, BROOKLYN 8, NEW YORK

▼ FREE!!!—Identify by IEN-4580 ▼

ROSS CARRIER COMPANY, Benton Harbor, Michigan
Seattle Portland San Francisco Vancouver, B. C. New York City Hamilton, N. J.

▼ FREE!!!—Identify by IEN-4581 ▼

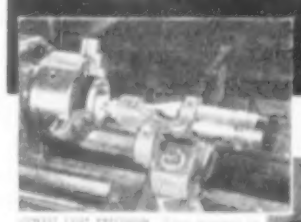
NEED THIN GAGE BIMETAL?

GENERAL PLATE
Division of Metals & Controls Corporation
705 FOREST STREET, ATTLEBORO, MASS.

▼ FREE!!!—Identify by IEN-4582 ▼

ACCURACY TO .0001" IN PRODUCTION SET-UPS

FOR AS LITTLE AS $117.50



Write FOR CIRCULAR

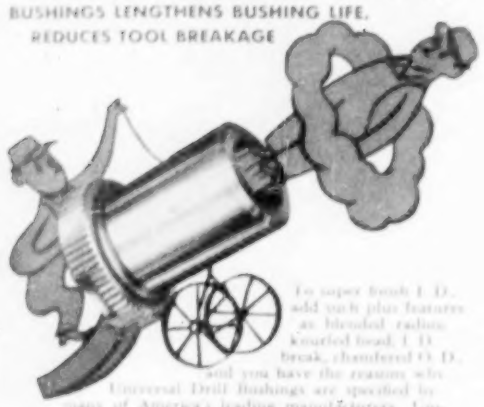
PRECISE PRODUCTS CO., 1326 State St., Racine, Wis.

PRECISE SUPER 40

▼ BRIEFITS—Identify by IEN-4583 ▼

SMOOTH AS A GUN BARREL!

SUPER FINISH BORE ON UNIVERSAL DRILL BUSHINGS LENGTHENS BUSHING LIFE, REDUCES TOOL BREAKAGE



To super finish I. D., add such plus features as blended radius, knurled head, I. D. break, chamfered O. D. and you have the reasons why Universal Drill Bushings are specified by many of America's leading manufacturers. Universal provides extra prompt sectional delivery and information from warehouses at 1061 Broad Street, Newark, N. J. and 5035 Sixth Ave., Kenosha, Wis. Write, call or wire today!

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 6, MICHIGAN

▼ BRIEFITS—Identify by IEN-4584 ▼

Precision Built

MAKE SURE WITH A DILLON DYNAMOMETER

Measures only 8¼" x 4¼" x 3". Weighs just 8 lbs. 4 oz. Steel carrying case free.

In actual field tests or in the lab., Dillon Dynamometers give accurate results every time. Measure tension or static loads quickly—easily. Compact. 9 different capacities—all same size, same weight. From 0-500 lbs. up to 0-20,000 lbs. Excellent delivery. Write today for technically illustrated catalog.

Accurate Dependable

W. C. DILLON & CO., INC.
5610-K W. Harrison St., Chicago 44, Ill., U.S.A.

▼ BRIEFITS—Identify by IEN-4585 ▼

▼ BRIEFITS—Identify by IEN-4586 ▼

FORMING . . Pneumatic drop hammer, 14 sizes take 300 to 52,000 lb. dies

Source: CHAMBERSBURG ENGINEERING CO., Derbyshire St., Chambersburg, Pa.

Model L is new concept of the company's Cleveland machine for cogent forming of sheet metal work. It represents improvement over previous designs in the construction, operation, protection, operation, removal, the same as it has been. Standard size from 14 to the line tonnage 15 in. between uprights, 12 in. front to back and has an 18-in. maximum stroke. It takes a maximum die weight of 300 pounds. Largest machine measures 130 by 130 in., has a 48-in. maximum stroke, takes dies to 52,000 pounds.

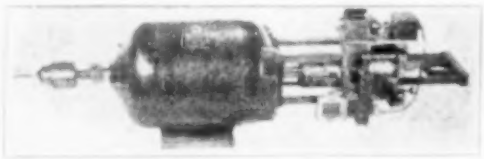
Ram movement is controlled by a hammer piston valve admitting compressed air to the cylinder to move the piston and ram, exhausting it to permit piston and ram with the attached tools to drop. The valve is operated by the control lever and the ram moves with the movements of this lever, slowly or at considerable speed. For squeezing the ram is brought down on the work and the lever is held down. Adjustable stops on the lever limit its movement, permit setting as blows of the assembly from a preselected height.

Bulletin 58 E-0, 16 pages, illustrates and describes the machine, provides dimensions and specifications, lists optional equipment. Illustrations typical work.

▼ BRIEFITS—Identify by IEN-4587 ▼

THREADING . . Motor driven head with air control to handle ½ in. tap

Source: BLACK INDUSTRIES, 1402 E. 222nd St., Cleveland 17, Ohio



The spindle in this new motor-driven tapping head is also the rotor-carrying shaft of the driving motor as in the company's drilling head previously described IEN-258-D. Rotor and shaft move axially for the feed through a 2-in. maximum stroke. Operating speed is constant at 540 rpm. Overall dimensions are 20 in. in length by 9⅝ in. in greatest diameter by 6¾ in. in distance from the mounting foot to the spindle center. The spindle is equipped with a ½-in. Jacobs chuck. The head will operate in any position.

Control centers at a double-acting pneumatic cylinder on the rear end of the motor shaft. This cylinder provides forward and reverse movement in connection with a second double-end cylinder carrying a cam to operate a Micro switch connected to a reversing contactor. Air is admitted to one end or the other of this double-end unit at predetermined limits of travel in the feed movement to reverse the motor and also to reverse air pressure to the main cylinder.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 50

▼ BRIEFITS—Identify by IEN-4588 ▼

▼ BRIEFITS—Identify by IEN-4589 ▼

SAVE time, space and costs with AT&M centrifugals
This AT&M 5-ft suspended centrifugal is the largest centrifugal ever made
A.T. and M.
CENTRIFUGING

Does separation, extraction, dehydration, clarification, rinsing, filtration, draining, thickening or solid-relation enter into your processing? If so, you'll find that an AT&M Centrifugal, large or small, will do it faster and better at lower unit costs. Made in all machinable metals, AT&M Centrifugals are available with fume-proof hoods, free-wheeling drives, removable baskets, spray pipes and many other AT&M special features designed to solve specific problems. Why not send us a sample of your material for confidential analysis and recommendation without cost or obligation? American Tool and Machine Company, 1417 Hyde Park Ave., Boston 36, Mass.

▼ BRIEFITS—Identify by IEN-4590 ▼

Can be installed inside or outside of dock door models for various purposes.

SOLD AT A LOW COST

...and the cost is especially low because it pays for itself many times... saves time and money over many years.

- PREVENTS ACCIDENTS
- ONE MAN CAN OPERATE
- FIREPROOF
- WATERPROOF
- DURABLE — LONG LIFE
- DEPENDABLE

BEAT THE BAD WEATHER

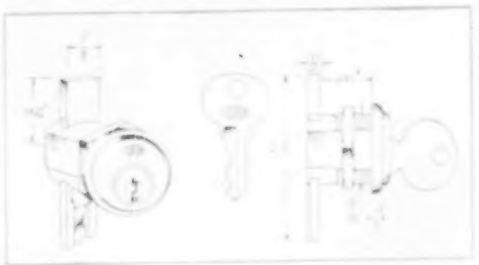
CAPCO Dock Covers completely enclose the space between car and building doorways, protecting loading and unloading during bad weather. Recommended by safety engineers. No more wet merchandise in the rain ..... no more interruption during winter. Here's your insurance against loss of either heat or refrigeration; you have practically the same as indoor loading.

CAPCO

672-74 PROSPECT AVENUE • KANSAS CITY 1, MISSOURI

▼ REFER—Identify by IEN-4592 ▼

Let's get together on special Locks for special purposes



Corbin lock engineers design new devices for unusual locking applications.

The Corbin Industrial Catalog includes special locks for vending machines, switch boxes, flush panel locks and many other special applications.

Our Industrial Catalog 991 sent upon request.

Corbin Cabinet Lock

DIVISION

THE AMERICAN HARDWARE CORPORATION
NEW BRITAIN, CONNECTICUT

▼ REFER—Identify by IEN-4593 ▼

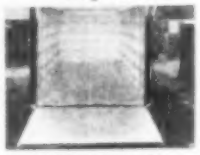
For greater safety under foot,
in your plant and on your products

Inland 4-Way Safety Plate

Firesafe

Long Life

Quick Starts—Stops



Adds Strength

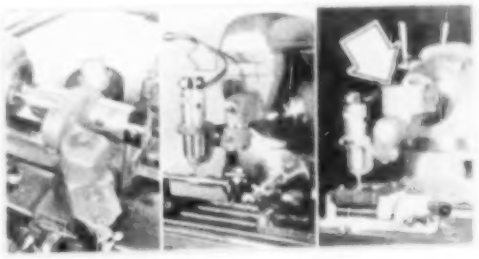
INLAND STEEL COMPANY

New Bulletin with New Ideas—Just Out! Submit IEN-50

▼ REFER—Identify by IEN-4595 ▼

GRINDING . . Motor driven head also for milling, to mount in machine

Source: PRECISE PRODUCTS CO.
1326 Clark St. Racine 7, Wis.



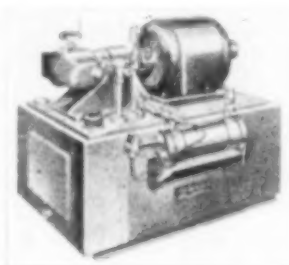
Super-10 and the new super-D Grinder Motor heads are essentially identical assemblies of precision ball-bearing spindle and 1/4 hp universal motor. Either assembly mounts. Standard input is Hertrell ac or dc. Other electrical characteristics can be specified. The motor and armature of the company's virtual high-speed grinding motor are the engine. They are intended for operation at 15,000 to 17,000 rpm, to drive grinding wheels or small milling cutters.

New possibilities are available to users of Hertrell motors in addition to grinding and milling. Drilling, tapping, reaming and routing heads, all of which are shown in the illustration, have been put under the motor manufacturer's name plate.

▼ REFER—Identify by IEN-4596 ▼

DRIVE . . Hydraulic power unit with pump, motor, valves, reservoir

Source: DENISON ENGINEERING CO.
1158-62 Dublin Road, Columbus 16, Ohio

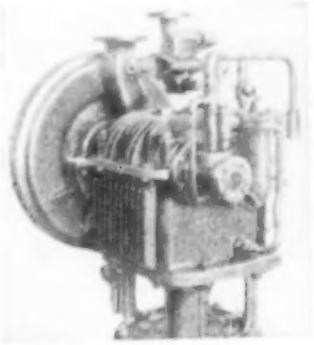


Delivery rating [illegible] at 1200 rpm pump for constant or variable delivery. A flow intake on the reservoir, an adjustable pressure relief valve on the outlet to set desired maximum pressure. The supply unit is assembled on a base plate that mounts on the reservoir. The whole unit is ready to be supported on its bottom or up a wall from the floor. At one end of a removable cover plate [illegible] access to the interior.

Optional equipment includes a heat exchanger supplying water under thermostat flow control to cool the returning oil, a vacuum gage for the intake to signal need to clean the filter. A by-pass overfill and non-pressure relief valve protect the heat exchanger from sudden surges due to pressure or flow. A dial thermometer might substitute [illegible]

All Makers of Flow And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 50

▼ REFER—Identify by IEN-4597 ▼



Pumps oil at 5800 rpm

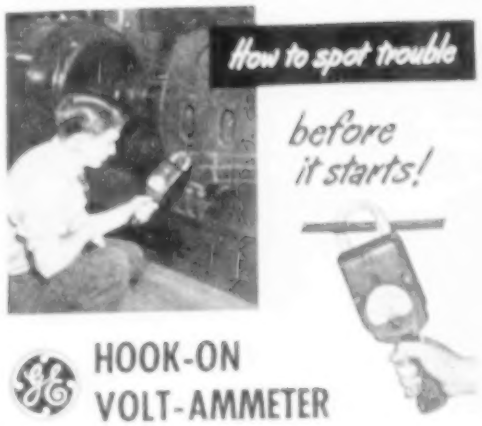
De Laval IMO gauges can be mated [illegible] to high speed shafts. No space consuming gear reductions are necessary. Pump capacity is high compared to its size and weight.

Investigate the IMO if you need a dependable, high speed, pulsation-free pump for lubricating, seal, load, tube, hydraulic control, feeder or various transfer.

Ask for Catalog 1-2INT-Q

IMO PUMP DIVISION of the
DE LAVAL STEAM TURBINE CO.
TRENTON 2, NEW JERSEY

▼ REFER—Identify by IEN-4598 ▼

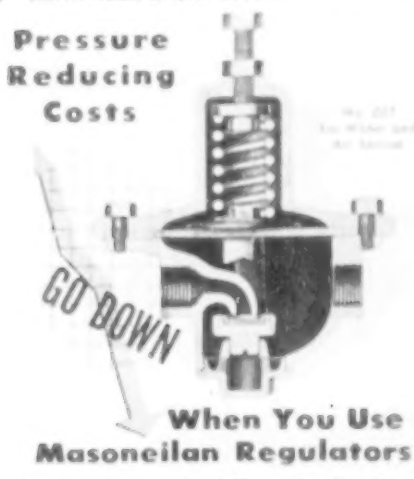


HOOK-ON VOLT-AMMETER

[illegible] $74.75

GENERAL ELECTRIC

▼ REFER—Identify by IEN-4599 ▼



When You Use Masoneilan Regulators

You'll find thousands of Masoneilan Regulators in hundreds of plants giving accurate pressure reducing service in various types of applications.

It stops "singing" and splashing from [illegible] without cutting down flow [illegible] reduces steam line plumbing. Body Ratings: 150 psi [illegible] Reduced Pressure Ranges: sizes ½" to 1" — 10-60 psi; sizes 1½" to 2" — 10-40, 30-60 psi; size 2" — 15-40, 30-60 psi.

Also available for air service in sizes from ½" to 1".

Your local Mason-Neilan industrial distributor is ready to serve you from his stock.

MASON-NEILAN REGULATOR COMPANY
1188 ADAMS STREET, BOSTON 24, MASS., U. S. A.

▼ REFER—Identify by IEN-4600 ▼

Rolling Steel Doors

Manually • Mechanically • Power Operated

When you want greatest economy of space both inside and outside of the opening, greatest protection, convenience, dependability in operation and number of years of trouble-free service, you will find these features in greatest measure in a good rolling steel door. When you buy Mahon Rolling Steel Doors, you are assured the latest developments in doors of this type [illegible] you get exclusive design and operating features which continue to gain favor with industrial, commercial and transportation concerns throughout the country. See Sweet's Files for detailed information, or write for Catalog No. G-49.

THE R. C. MAHON COMPANY
Detroit 11, Michigan • Representatives in All Principal Cities

MAHON

▼ FREEFITT—Identify by IEN-4601 if you write the maker ▼

Good working conditions are important in the efficient operation of any plant—that is why dust hazards should be eliminated. There are many ways in which DRACCO Dust Control contributes to greater plant efficiency—equipment lasts longer and requires less maintenance and good working conditions attract better workers. In many cases valuable recovered stock makes substantial savings. You may consult DRACCO Engineers and obtain their advice. They have over 15 years experience in fume and dust control.

For Further Information Write

DRACCO CORPORATION

6040 E. 116th Street, Cleveland 5, Ohio

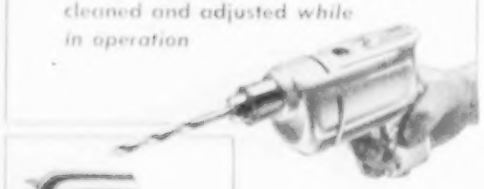
PNEUMATIC CONVEYORS • DUST COLLECTORS

▼ FREEFITT—Identify by IEN-4602 if you write the maker ▼

Milwaukee HOLE-SHOOTER

with exclusive split-body design

Its electrical parts can be inspected, cleaned and adjusted *while in operation*



NOW USED by LEADING INDUSTRIES for PRODUCTION and MAINTENANCE

It has more than once been A MATTER OF MINUTES WHEN HOLE-SHOOTERS first were adopted on assembly operations in America's most progressive plants. Its versatility for boring, drilling, reaming or countersinking. Ask for Catalog 46. Equipped with Quick P.M. (V.S.) Switch. 0-1/2" Capacity. 0-500 R.P.M. Ball and roller bearings. Many more power features. 1/4" V. M. or D.C. Rated 2.0 amps. at 115 volts. Other voltages or speeds to Order (11).

Milwaukee QUALITY TOOLS

MILWAUKEE ELECTRIC TOOL CORP., 5302 W. STATE ST., MILWAUKEE 8, WIS.

▼ FREEFITT—Identify by IEN-4603 if you write the maker ▼

You're sure of faster working

EXTRA CLEAN Sockets in CLEVELAND Socket Head Screws

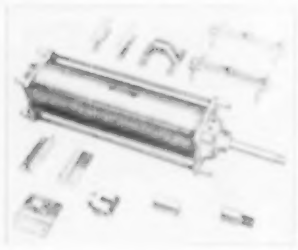
CLEVELAND Top Quality FASTENERS

THE CLEVELAND CAP SCREW COMPANY

▼ FREEFITT—Identify by IEN-4604 if you write the maker ▼

CYLINDER . . Double acting design pressure to 200 lb., 1 1/2 to 8 inches

Source: LEDEEN MFG. CO.
1602 S. San Pedro St., Los Angeles 15, Calif.



Medium Duty. For pressures to 200 lb. Designed with minimum of moving parts. Piston rod guide prevents piston rod from turning. Newly developed cup for pressures to 200 pounds. Replacement cups can be made with ordinary tools or can be purchased. Five standardized strokes [illegible]. Bulletin 500 [illegible].

▼ FREEFITT—Identify by IEN-4605 if you write the maker ▼

PAINTING . . Non-pigmented plastic flexible, fire-retardent, weatherproof

Source: R. I. CHEMICAL CO.
P. O. Box 367-A, Dover, N. J.

$11.66 per gallon
1 to 49 gallons

Durane [illegible]

▼ FREEFITT—Identify by IEN-4606 if you write the maker ▼

LIGHTING . . Fluorescent fixture for 2 and 3 lamps each rating 40 watts

Source: WESTINGHOUSE ELECTRIC CORP.
306 Fourth Ave., P. O. Box 1017, Pittsburgh 30, Pa.

Steel hood [illegible]

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

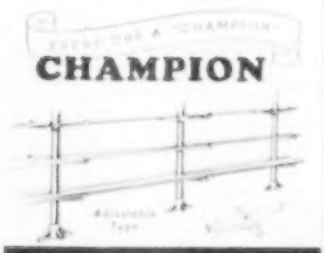
▼ FREEFITT—Identify by IEN-4607 if you write the maker ▼

A.W. FABER-CASTELL
No finger smear
No drawing smudge
with A. W. FABER'S quick-action
LOCKTITE
black or colored
REFILL DRAWING PENCIL
Patented collet clutches lead in bull dog grip — prevents breaking or slipping back into holder.
Holds all the standard graded drawing or retouching leads. WINNER Techno-TONE 1930—degrees 7B to 9H—assures best results.
Also available in RED, BLUE, GREEN, YELLOW, CARMINE, ORANGE, WHITE, and SILVER holding sturdy WINNER-Techno-TONE crayon leads for coloring, sketching and checking.
Unconditionally guaranteed
AW FABER-CASTELL
PENCIL COMPANY INC., NEWARK, N.J.

▼ FREEFITT—Identify by IEN-4608 if you write the maker ▼

heavy-duty racks
...save time and floor space
keep stocks in better shape

Double Type



Adjustable Type

Wall Type

PATENT ONE A "CHAMPION"

CHAMPION

The WESTERN Tool & Mfg. Co., Springfield, Ohio

▼ FREEFITT—Identify by IEN-4609 if you write the maker ▼

IN CONCRETE, MARBLE, OR ROCK

★ DRILL FASTER
★ DRILL FASTER
★ DRILL CLEANER

WITH THE ORIGINAL
ROTARY CONCRETE DRILL BIT

For use in electric or air rotary drills. No hammering—no chiseling—no jarring. RCD Drill Bits' pulverizing action does the job better. Cheaper, too, because they are so much faster. Standard sizes 1/4" to 2" in diameter. *Free factory re-sharpening until further notice.*

Send for new low prices and illustrated literature

Personalized guarantee given to every RCD Drill Bit user.

ROTARY CONCRETE DRILL CO.

650 S. Arroyo Parkway • Pasadena 1, Calif.

▼ FREEFITT—Identify by IEN-4610 if you write the maker ▼

RECORDING MECHANICAL COUNTER ACTUATED BY AN ELECTRICAL IMPULSE

It operates on the output of a scaler, photo tube, or other electrical unit . . . permanently records counts on a 2 1/4" tape . . . automatically resets to zero.

In Radioactive Research it saves precious time by eliminating many hours of manual labor, resulting in greater economy and efficiency.

In Industry it maintains a permanent record automatically, recording production and time each hour.

Write for illustrated circular S C 12

STREETER-AMET COMPANY

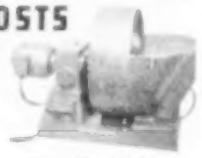
Automatic Weight Recorders and Scales
High Speed Counters — Since 1888

4101 Ravenswood Avenue Chicago 13, Illinois

▼ ——— Identify by IEN-4611 ———▼

Lower

PRODUCTION COSTS WITH *KRAUS* AUTOMATIC HOPPERS



Typical Tumble Hoppers

USE THEM FOR...

1. Machining
2. Assembling
3. Packaging
4. Sorting

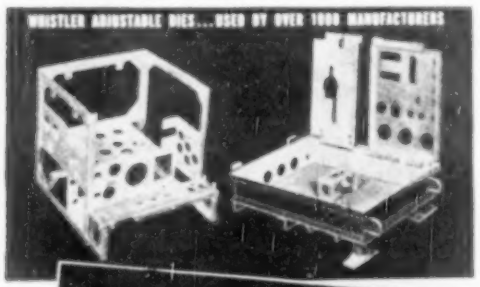
VERSATILITY. Basic hoppers can be tooled for a wide variety of pieces.

LARGE CAPACITY. Up to 2.4 cu. ft. on 32" tumble type. Eliminates frequent reloading and saves labor.

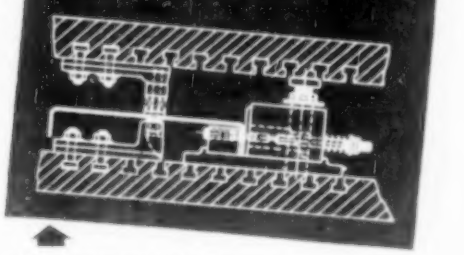
Send samples with delivery rate and orientation requirements to:

KRAUS DESIGN INC.
948 EXCHANGE ST. - ROCHESTER 8, N.Y.

▼ ——— Identify by IEN-4612 ———▼



Simplifying Complicated Piercing Operations...



HU-30 Perforating unit split to remove. Has with standard Whistler Adjustable Dies on the same job.

LEARNING manufacturers find it pays to write and telephone to the Whistler Adjustable Die factory when piercing problems crop up on production. If your piercing work is complicated, has "odd" shapes, or is subject to frequent die changes, you'll find Whistler Adjustable Dies can be set up quickly and at little die cost. New HU-30 unit (see picture at left) can be used in conjunction with standard perforating equipment. Insure your operations are accurate.

Whistler Adjustable Dies can be changed practically over night. Simplified setup of punches and dies up to 6" in working area. Dies are made of specially heat treated steel to assure long life. Write for full details and for special engineering help on your particular needs. No obligation, of course.

S. B. WHISTLER & SONS, INC.

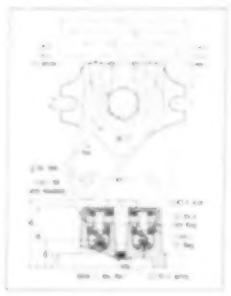
734 Military Road
Buffalo 17, N. Y.

For more details on this modern way to speed production and save money, write for your copies of the Whistler catalogs.

▼ ——— Identify by IEN-4614 ———▼

VALVE . . Three-way pneumatic for a small single-acting cylinder

Source: A. SCHRADER'S SON
465-72 Vanderbilt Ave., Brooklyn 17, N. Y.



No. 3161 is a new three-way operating valve that has been designed to control operation of the company's new series of pneumatically operated single-acting cylinders, previously described (IEN-4561). Valve is operated through a range of movement of 3/16" and has a maximum operating pressure of 125 psi. Valve is a normally closed unit, opening when the stem is depressed. Flow is in the opposite direction when the stem is released.

Two ports, one to the right and one above to the left, are threaded for ¼-in. pipe. The exhaust port is located through the base of the housing. The three port openings within the valve are through a bronze ring. Sealing of the air flow is by a resilient elastomer cone that is tapped on the long taper. Unit operates on air at 100 pounds. A cover screw and compression spring complete the assembly.

▼ ——— Identify by IEN-4615 ———▼

CONDUCTOR . . Aluminum wire with polyethylene insulating covering

Source: KAISER ALUMINUM & CHEMICAL SALES INC.
1922-6 Broadway, Oakland 12, Calif.

Covering applied by extrusion

New line of electric wire made of aluminum with polyethylene covering includes solid wire in 6, 4 and 2 AWG, stranded aluminum conductor sizes available in 4, 2, 1, 1/0, 2/0, 3/0 and 4/0 AWG and ACSR/AW in 4, 2, 1 and 1/0 AWG. The cable is multilayered, mainly black in color. It is resistant to moisture and attack by strong acids. Weight is about one-half that of equivalent stranded copper.

▼ ——— Identify by IEN-4616 ———▼

HAMMER . . Soft faced hand unit clamping head takes replaceable faces

Source: CHICAGO RAWHIDE MFG. CO.
1303 N. Elston Ave., Chicago 22, Ill.

Waterbuffalo Tube is employed in the frame of this new hammer. It provides a combination of resistance and tough-ness to stand up to duty serv-ice. The head acts as a clamp-ing member, is secured by a nut. Jaw faces and inserts replace-able of the face units when worn out. Loaded and unloaded assemblies are in the line.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 58

▼ ——— Identify by IEN-4617 ———▼

Geneva's NEWEST DEVELOPMENT D-140

400x18 PNEUMATIC TIRED DISC WHEEL FOR MANY TYPES OF PORTABLE EQUIPMENT IN FACTORIES, ON FARMS AND ROADS!

★ HERE IS THE ECONOMIC ANSWER TO THE NORMALLY HIGHER PRICED AUTOMOTIVE PNEUMATICS

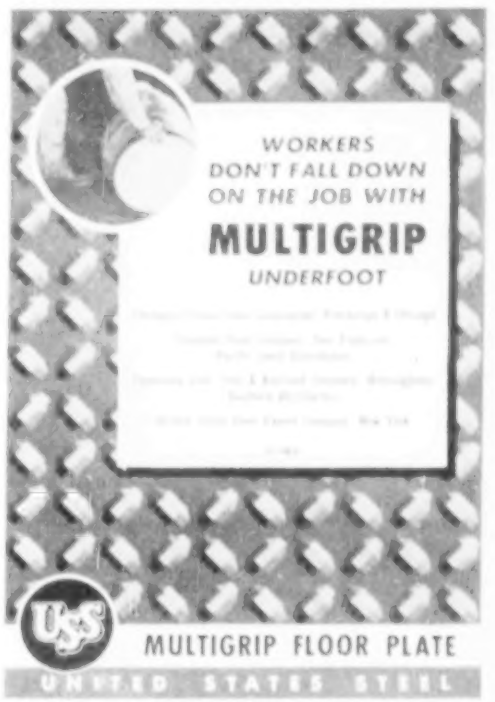
- LIGHTER WEIGHT—The 400x18 4 ply is 10 lbs. lighter than the 6.00/16, 4 ply automotive.
- WHEEL CONSTRUCTION—Drop center rim, double disc, stainless steel lasting lug, either tapered or straight roller bearings of highest quality.
- TIRE DESIGN—Diameter, 26" or almost equal to 6.50/16 automotive. The 400x18 industrial tire has been designed for good cornering and maximum flotation.

SEND FOR BULLETIN 1013 TODAY!

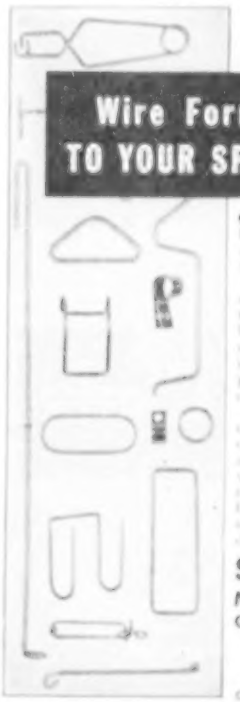
GENEVA WHEEL CO.
1255 RAILROAD ST., GENEVA, OHIO

50 YEARS OF WHEEL DESIGNING AND MANUFACTURING

▼ ——— Identify by IEN-4618 ———▼



▼ ——— Identify by IEN-4619 ———▼



Wire Forms Finished TO YOUR SPECIFICATIONS

● Now, Sommer is equipped to handle your wire forms in a wide variety of attractive finishes.

We have installed fast, automatic nickel plating equipment for either large or small assemblies. Also, if you want cadmium or zinc plating, bonderized enamel, parkerized or copper-coated finishes — you can count on Sommer.

Complete forming, stamping, threading and butt welding of light metal parts are also among our services. Whatever your problem, you can save time and money if Sommer handles the complete job. Just send sample, blueprint or drawing.

SOMMER METALCRAFT CORPORATION
(formerly RESORE Wire and Specialty Company)
350 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

▼ ——— Identify by IEN-4620 ———▼

ARO ELECTRODE DRESSER *does job 5 times faster!*

This new tool is light in weight, powerful, portable . . . used for re-shaping copper electrodes on spot welding machines without removing tips from machines. 1200 r.p.m. cutting speed does job right—nearly 5 times faster than former methods! Cutters for No. 1 and No. 2 dome-type electrodes and No. 1 and No. 2 pointed or tapered-type electrodes available from stock; other types on special order. Write for bulletin. See your nearest industrial distributor.

ARO
AIR TOOLS

The Aro Equipment Corporation, Bryan, Ohio

▼ SAVE TIME—Identify by IEN-4621 if you write the maker ▼

Concentrate on Something Else

One reason why we're still doing business successfully after forty-five years of manufacturing gears of all types for a variety of industries is because we have continuously maintained the policy of making sure that each customer gets exactly the right gear for the job. Since we expect to continue in business for a great many years, it stands to reason that this policy will never be compromised. Therefore, you can turn your gear problems over to us—while you concentrate on something else.

THE EARLE GEAR & MACHINE CO., 4707 Stenton Ave., Philadelphia 44, Pa. Sales Offices: New York City; Youngstown, Ohio.

It's good business to do business with EARLE.

▼ SAVE TIME—Identify by IEN-4622 if you write the maker ▼

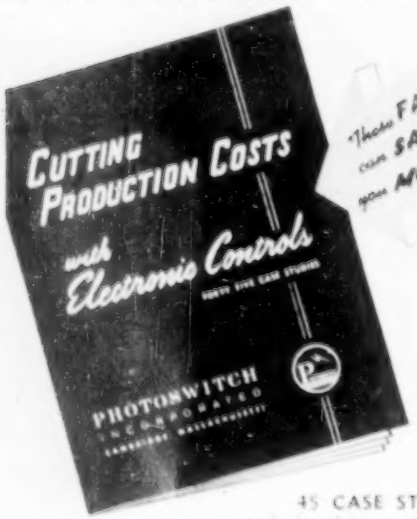
6 in 1 The Clarke Floor Maintainer does six jobs . . . provides fast, low-cost maintenance for all types of floors. Easy to use, perfectly balanced, noiseless, and quality-built for years of uninterrupted service. A size for every need. Write for free catalog!

In floor maintenance

There's nothing like a

Clarke SWEEPING MACHINE COMPANY, 181 Clay Ave., Muskegon, Mich.
Sales & Service Branches in All Principal Cities

▼ SAVE TIME—Identify by IEN-4623 if you write the maker ▼



These FACTS can SAVE you MONEY

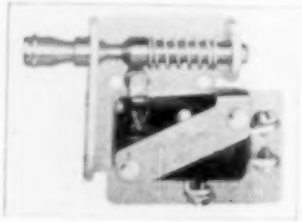
45 CASE STUDIES

PHOTOSWITCH INCORPORATED
75 Broadway, Cambridge 42, Massachusetts

▼ SAVE TIME—Identify by IEN-4624 if you write the maker ▼

SWITCH . . Door interlock assembly to open circuit when door is opened

Source: MICRO SWITCH CORP.
30 E. Spring St., Freeport, Ill.



New assembly of one of the company's operating position switches with a motor-driven actuator spring-backed operating plunger and mounting bracket applies at a time getting pressure to a bracket or cabinet wherever continuing dangerous motions or an emergency equipment. Operate the door releases a screw to move the operating plunger to central open-circuit position.

Closing the door returns the plunger against the spring to make the circuit. The plunger can be pushed out manually to the position shown, when the door is open, to close the circuit for test purposes. Restoring the door will move the plunger back to normal closed circuit.

The switch in single-pole double-throw design with rating at 10 amps. at 110 or 220 volt ac or 2A volt dc. The assembly measures 3¼ by 2¾ by 1⅝ inches. It is listed as No. 2AC1.

▼ SAVE TIME—Identify by IEN-4625 if you write the maker ▼

GAGE . . Attachment dial to convert a go and no-go limit gage

Source: STANDARD GAGE CO.
55 Parker Ave., Poughkeepsie, N. Y.

Dializer is an adjustable snap gage attachment to apply on a limit gage to convert it to the combination. It is calibrated for a knurled nut, enough accuracy in four positions, provides a range of adjustment the same as the original AGD limit gage. The dial is supplied to read in .001 or .0001 in. divisions.

Application can be made to gages with No. 1 to No. 4 frame for an overall range 1 to 3 inches. Models A, B or C can be fitted in and make that conform to AGD specifications. The gaging pin can be chrome plated or hardened steel or tungsten carbide tipped.

▼ SAVE TIME—Identify by IEN-4626 if you write the maker ▼

ALUMINUM . . Data on casting alloys in new booklet covers metallurgy, specifications

"Aluminum Casting Alloys" is the new 40-page booklet of information on 43 alloys and foundry practice concerning them. A section on metallurgy describes the effect of other metals on aluminum, heat treatment, corrosion,

Of Makers of These And All Other Products Are Listed In THOMAS' REGISTER Descriptions Ratings See Page 10

▼ SAVE TIME—Identify by IEN-4627 if you write the maker ▼

The JOHN CRANE shaft seal is being supplied with hydrodynamic grooves to all types of equipment requiring rotating shafts. Proven and worked improvements in seals have been outstanding for easy self-adjusting and positively eliminates the human element in maintenance.

Investigate the JOHN CRANE Shaft Seal for your application without obligation. Write for your copy of our Engineering Data Book No. 56 today.

CRANE PACKING COMPANY
1813 CUYLER AVENUE • CHICAGO 13, ILLINOIS

▼ SAVE TIME—Identify by IEN-4628 if you write the maker ▼

NO MORE hacksawing drudgery that everybody hates.

NOW! HAND-I-HACK

*Trade Mark Reg. U. S. Pat. Off.

PORTABLE POWER HACK SAW

Hand-i-Hack will eliminate this drudgery. It's light—easily carried to the job. It will work in any position. It will pay for itself quickly in labor saving and broken blade costs alone. Capacity 2" x 2". Write for literature.

Lipe-ROLLWAY CORPORATION
812 Emerson Ave. Syracuse, N. Y.

▼ SAVE TIME—Identify by IEN-4629 if you write the maker ▼

BETTER SEEING makes a Big difference in WORK OUTPUT REJECT LOSS COST PER PIECE

LOCALITE THE VITAL SEEING ZONE ON MACHINE OR BENCH

Small Investment Pays Big Dividends

The faster and better a worker sees, the quicker and more accurate his production. Good light on the critical work area is his most vital tool. Only with Localites can most ample illumination and flexibility for position be provided to direct the right illumination exactly as needed for the particular task.

Thousands of plants are now profiting with Localite seeing tools. You, too, will see a big difference with a Localite on every precision task . . . bench and machine.

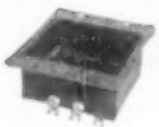
★ Write for free booklet on the correct Localite and complete guide of Localite and illumination quality.

BALANCED LIGHTING fostoria LOCALITES

THE FOSTORIA PRESSED STEEL CORP.
FOSTORIA, OHIO, U.S.A.
Localites are available through selected distributors everywhere

▼ REFER TO IEN - 4631 ▼

For HEAVY DUTY WORK!
Severest Electrical Services



JONES PLUGS & SOCKETS
500 SERIES
Proven Quality!

For 5,000 Volts, 25 Amperes per Contact Alterable by circuit Characteristics.

Socket contacts of phosphor bronze, knife-switch type, cadmium plated. Plug contacts hard brass, cadmium plated. Made in 2, 4, 6, 8, 10, and 12 contacts. Plugs and sockets polarized. Long leakage path from terminal, and terminal to ground. Cups and brackets, steel parkerized (rust proofed). Plug and socket blocks interchangeable in cups and brackets. Terminal connections most accessible. Cap furnished with screw fastener.

Write for Jones BULLETIN 500 for full details on line.

Send for complete data on this new basic improvement

Howard B. Jones Division
CHICAGO 24, ILLINOIS

▼ REFER TO IEN - 4632 ▼

how good can a valve be?

THIS ONE HAS OPERATED
10,000,000 TIMES
WITHOUT APPRECIABLE WEAR!

Hanna unitite Valves

YOU WANT a valve you can *depend* upon to operate faithfully day after day, month after month, year after year—without repacking—without adjustment—with nothing more than lubrication.

A running test under normal operating conditions shows that a Hanna Unitite Valve is still "going strong" after 10 *million* cycles of operation, and should be good for *another* 10 *million*. Based on eight cycles per minute for an eight-hour day, this would represent 20 years of care-free service!

This is not surprising, for Hanna Unitite Valves are made of superior quality materials and parts. They are packless and permanently tight, protected from dust and abrasive matter by a Neoprene cap, and operate with a patented disc movement.

Unitites are designed for 3-way or 4-way operation, for air, oil or water, up to 250 psi, in three mounting styles. The Hanna Valve Catalog gives full details.

Send for Catalog

New Valve Catalog 251 gives features and specifications on the complete line of Hanna Valves.

Hanna Engineering Works
HYDRAULIC AND PNEUMATIC EQUIPMENT . . . CYLINDERS . . . VALVES . . . FITTINGS
1743 Elston Avenue, Chicago 22, Illinois

▼ REFER TO IEN - 4634 ▼

RECORDING . . Motion actuated unit traces equipment activity on a chart

Source: SERVICE RECORDER CO.
1373-7 Euclid Ave., Cleveland 15, Ohio

New design in the compact Service Recorder for applications where unit size must be kept small. Unit is sealed for operation in dusty, damp, or oily atmospheres. Includes a sturdy 24-hour clock driven by heavy duty motor. Recording chart is 3" diameter and has capacity for 24 hours of recording. Unit price is $35 . . . add $10.00 for 100 charts.

Operation of the recorder is by means of a switch, relay, or contactor which is connected to the equipment to be recorded. The switch operates a motion that is sent to the chart where the impression is made. The duration of the impression is directly proportional to the time the equipment is in operation. Thus, the recorder shows the equipment is operating, how often it stops, and for how long. The equipment is operating at least 75% of the time when the impressions are 18 minutes apart. Where the impressions are 36 minutes apart, the equipment is operating at least 50% of the time. Where the impressions are 72 minutes apart, the equipment is operating at least 25% of the time. Where the impressions are 144 minutes apart, the equipment is operating at least 12½% of the time. Where the impressions are 288 minutes apart, the equipment is operating at least 6¼% of the time.

Bulletin, 8 pages. The Service Recorder . . . operation, . . . typical data recording charts . . . a summary of information to show the . . . for . . . equipment.

▼ REFER TO IEN - 4635 ▼

CLEANING . . Pump equipped tank floods cleaning solution over the work

Source: WILKINSON MFG. CO.
1046-50 Omaha Nat'l Bank Bldg., Omaha 2, Nebr.

The work is supported on a . . . assembly . . . in this case . . . The tank is equipped with . . . The cleaning solution is . . . The tank . . .

▼ REFER TO IEN - 4636 ▼

KERRIGAN Weldforged GRATING

The Weldforged GRATING DIVISION
of KERRIGAN IRON WORKS, INC., NEWPORT, TENNESSEE
GENERAL SALES OFFICE: 570 MADISON AVE., N. Y. C.

▼ REFER TO IEN - 4637 ▼

When you do it with MULTIPRESS —you do it for LESS

Smaller size round . . . more speed than on manual ranges . . . jobs to match every industry. Multipress is the most efficient, most versatile available. Featuring advance cutting and design. Multipress uses modern, all-smooth hydraulic power to achieve safe, easy, accurate production at new high speeds. Sizes and capacities from 3 to 25 tons. Widely interchangeable controls, operating, handling and accessories make it easy to tailor stand-ard Multipress units to your exact needs, at low cost. Write or today.

The DENISON Engineering Co.

DENISON Hydr-O-Lectrics

▼ REFER TO IEN - 4638 ▼

FIBREX® RED WHEELS

cutting!
ideal for weld grinding!

Fibrex Wheels actually cut the excess weld metal away . . . in much faster operation than grinding . . . and then go on to smooth and finish the work . . . all with the same wheel!

Put Fibrex to work on your weld grinding and metal finishing jobs . . . for extraordinary cut . . . and cost-cutting efficiency. Send for Bulletin ESA-186.

SIMONDS ABRASIVE CO.

SIMONDS ABRASIVE CO., 5512 TACONY ST., PHILA. 37, PA.
DISTRIBUTORS IN ALL PRINCIPAL CITIES

▼ REFER TO IEN - 4639 ▼

KEEP SUN GLARE OUT
...AND PROFITS IN WITH

RA-TOX WOOD SPLINT VENTILATING SHADES

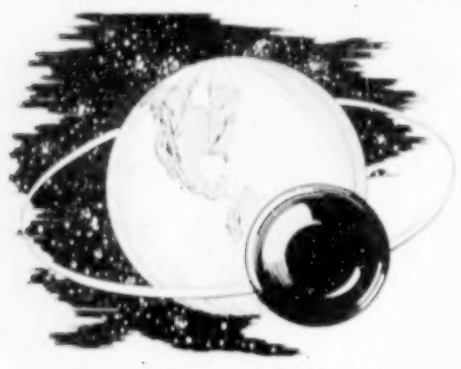
Sun glare on walls, machines and work . . . raises room temperatures, causes eye fatigue, lowers worker morale. Keep your plant at top efficiency with RA-TOX SHADES. Attractive, easy to operate, low cost, long wearing. Made in types and sizes for all types of industrial windows. Write for folder.

THE HOUGH SHADE CORPORATION
Industrial Division
1033 JACKSON STREET • JANESVILLE, WISCONSIN

▼ BRIEFITY—Identify by IEN-4640 if you write the maker ▼

For pumping acids, caustics, and other difficult liquids as well as water. Handles air or vapor with the liquid. Ten GPM and larger. Ask for Bulletin 53.

▼ BRIEFITY—Identify by IEN-4641 if you write the maker ▼



around the world, it's

HOOVER BALLS

made of

CHROME STEEL • CARBON STEEL • STAINLESS STEEL BRASS • BRONZE AND MONEL METAL

"America's Foremost Ball Manufacturer"

HOOVER BALL and BEARING CO.
Ann Arbor, Michigan

▼ BRIEFITY—Identify by IEN-4642 if you write the maker ▼

The Visutac, a visual (stroboscopic) hand tachometer is widely used in every industry for measuring rotary and vibratory speeds from a distance and without contact. Made in two basic ranges, 500 to 8000 and 1000 to 16,000 R.P.M.-V.P.M.
BOULIN INSTRUMENT CORPORATION
PORTABLE AND STATIONARY CENTRIFUGAL TACHOMETERS
PORTABLE CHRONOMETRIC AND STROBOSCOPIC TACHOMETERS
65 MADISON AVENUE, NEW YORK 16, N. Y.

▼ BRIEFITY—Identify by IEN-4643 if you write the maker ▼

VALVE . . Pressure regulator combined with filter for pneumatic line

Source: C. A. NORGREN CO.
220-24 Santa Fe Drive, Denver 9, Colo.

Compressed air, or non-corrosive gas at pressure to 125 lb and temperature to 120 deg. F. can be connected for cleaning and pressure control in this new Filter-Regulator. The air enters a port that sets up centrifugal action in the transparent bowl at the bottom of the assembly to throw out entrained dirt and moisture which drop to a quiet zone at the bottom. The air then passes to the regulator through a central gas-pass. Monel Metal screen.

The regulator is set for a desired outlet pressure by turning a knob at the top. The pressure shown on a gage at the side. Overall height of the assembly is 11 inches. Inlet and outlet are at the left-each other for connection in a straight horizontal line of pipe.

▼ BRIEFITY—Identify by IEN-4644 if you write the maker ▼

RIVETING . . Hopper feed machine provides adjustable centers for work

Source: CHICAGO RIVET & MACHINE CO.
9602 W. Jackson Blvd., Bellwood, Ill.

Model 211 is a new feature of the existing machine in the company's line. Tool and shank sizes vary, two at a time. Thumbwheels provides for adjustment between the two centers from ¾ to 2 in. and can be supplied to order with greater range. From ¾ to 15 inches. Throat clearance 14 inches. The machine will head ⅜ in. rivets in weights to ⅝ inch.

Control centers at a foot pedal connecting to the machine clutch. The rivets are held in hopper at the top to feed into and through chuted to the heading tools at the work station.

▼ BRIEFITY—Identify by IEN-4645 if you write the maker ▼

MAGNIFYING . . Microfilm reader by American Optical now sold through Remington Rand

Remington Rand Inc.
315 Fourth Ave., Rm. 1810, New York 10, N. Y.

Exclusive sales rights have been acquired by the company for the American Optical electronic drive 16 mm. microfilm reader. This unit features electric viewing of microfilm in varying amount of enlargement from 12 to 32 diameters. Adjustments is possible for film speed, focus, light intensity. The reader will round out the company's line of 16 mm. units.

All Makers of Things And All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 10

▼ BRIEFITY—Identify by IEN-4646 if you write the maker ▼

Here's Equipment Built to Stand Up Under Your Production Requirements for

METERED PRESSURE PUMPING

of Such Chemicals as:

SULPHURIC ACID • SODIUM HYDROXIDE
LIQUID CHLORINE • HYDROCHLORIC ACID
SLURRIES • CHLORINATED HYDROCARBONS
HYDROGEN PEROXIDE • NITRIC ACID
HYDROFLUORIC ACIDS • OLEUM • PROPANE
CYANIDE COMPOUNDS • STYRENE • FREON

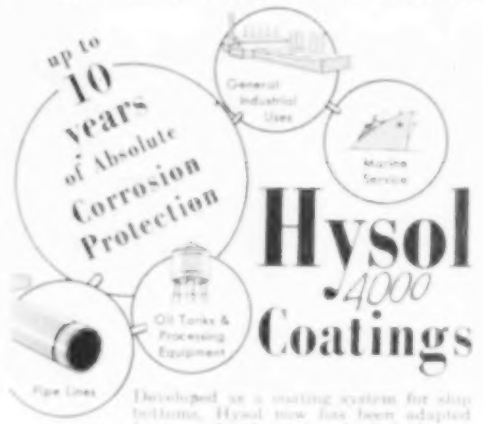
- NO STUFFING BOX OR RUNNING SEAL
- POSITIVE DISPLACEMENT PISTON MEASUREMENT
- FLOW RATE ADJUSTABLE WHILE IN OPERATION
- MANUAL OR AUTOMATIC CONTROL

Lapp PULSAFEEDER

PISTON-DIAPHRAGM CHEMICAL PROPORTIONING PUMP

WRITE for Bulletin 262 with complete description and specifications.
LAPP INSULATOR CO., INC. Process Equipment Div., 240 Willow St., Leroy, N. Y.

▼ BRIEFITY—Identify by IEN-4647 if you write the maker ▼



Developed as a coating system for ship bottoms, Hysol now has been adapted for general industrial and oil field uses. Tough and abrasion-resistant, Hysol Coatings adhere firmly to any metal surface. Write for specific information.

- Resist attack from salt water and practically all chemicals.
- 8 colors.
- Easily applied using spray, brush, dip or roller methods.

houghton laboratories, inc.

▼ BRIEFITY—Identify by IEN-4648 if you write the maker ▼

CHELSEA FANS

FOR INDUSTRIAL AND COMMERCIAL NEEDS

— step up production and plant efficiency, prevent HOT WEATHER SHUT-DOWNS!

Heavy Duty, Belt Driven TYPE IND

ALL TYPES • SIZES • CAPACITIES

Belt Driven Penthouse Fan TYPE PN — a completely packaged unit, all steel housing and automatic aluminum louvers. Fits any installation . . . sizes from 24" to 60" . . . 3800 to 40,500 CFM.

Duct Booster Fan TYPE DAB — Belt driven, for quiet, flexible removal of fumes and dust installations. Sizes from 10 to 42" . . . 2000 to 26,400 CFM.

Automatic Shutters, Horizontal TYPE LOU — Sturdy, counter-balanced, single section, construction. Full 90° opening. Sizes 10 to 60.

Belt Driven, Pedestal, Manufacturer TYPE MC — For use where large volume, or the quick air circulation is required.

WRITE FOR NEW CATALOG AND PRICE SHEET

For information on the most suitable fan for your engineering data, installation details, etc. Address Dept. J.

CHELSEA FAN & BLOWER CO., INC.
1206 GROVE ST., IRVINGTON, N. J.

▼ BRIEFITY—Identify by IEN-4649 if you write the maker ▼

3 COST CUTTERS

Inexpensive GRIPCO LOCK NUT
—with "double triangle" thread lock. Quick application, locks and holds right. Can be reapplied many times with little loss of holding power.

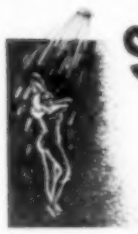
Inexpensive GRIPCO "PILOT" WELD NUT
Raised collar centers the nut instantly, automatically, for quick welding. No measuring, no eyes, no time lost applying.

Inexpensive GRIPCO WELD NUT
—countersunk. Hot metal particles dislodged by welding are deflected away from threads. Bolt threads in to nut without trouble or retapping.

Get samples of sizes you use
compare first cost
compare application cost

GRIP NUT COMPANY
243 SO. MICHIGAN AVE., CHICAGO 4, ILL.

▼ BRIEFIT—Identify by IEN-4650 if you write the maker ▼



SAFETYMIX

EXTRA SHOWER SAFETY
. . . at no extra cost

PROTECTS AGAINST SUDDEN SCALDS

Safetymix, world's leading pressure-actuated multi-mold shower valve gives safety in the shower. Safetymix automatically shuts down flow if either hot or cold water fails.

HOLDS SHOWER TEMPERATURE CONSTANT

Even with excessive pressure fluctuations up to 85%, Safetymix still maintains constant discharge temperature.

LIFETIME SHOWER VALVE

The most rugged shower control valve made. Only Safetymix has the patented Flow Control Spindle with but one moving part to confine all valve functions. Built to last a lifetime.

GET FREEDOM FROM COSTLY MAINTENANCE

Safetymix is designed with self-cleaning action to prevent clogging and save water. All parts accessible from the front. As easy to fit as a faucet.

Send for bulletin and prices.

SAFETYMIX — MADE BY THE MAKERS OF THE NEW SYMMONS TEMPERING-CONTROLLER

Symmons ENGINEERING COMPANY
791 TREMONT ST., BOSTON 18, MASS.

▼ BRIEFIT—Identify by IEN-4651 if you write the maker ▼

PORTER-CABLE ABRASIVE BELT MACHINING

Does More Surfacing Jobs *Faster and Better*

Features high speed cutting by millions of abrasive points imbedded in a continuous belt, cooled and cleaned by water and other coolants. Does close tolerance work on flats, squaring, cylindrical surfacing, deburrs, knocks off corners, forms radii, bevels and other operations. Often does milling, shaping, grinding operations 10 times faster—saves 75-90% setup time.

AUTOMATIC FEED

Model BG-8 heavy automatic feed (shown). A versatile surfacing machine for many operations. Eliminates expensive fixtures. 8" wide belt works on either arms at once. Quickest method on contoured arms.

FINAL FINISH

Model BG-6. For production runs or short runs. Set contours to be machined. Quick, easy, accurate. Holds to close tolerances. Speed and feed, wheel, belt, arm settings indicated for quick setup. Heavy duty.

PLATEN OR FREE BELT

Model BG-66. Quickest adjustable to new contours of irregular shapes. Platen shown. Platen locks the work between arm and belt at many points of work. Free belt interchangeable quickly.

Grinds Contours
Saves Setup Time
Eliminates Remaking of Shapes

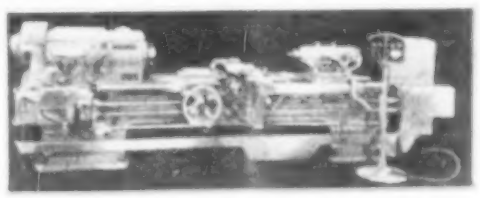
Use the coupon for complete information on Porter-Cable Abrasive Belt Machining, and for prices and specifications on your particular requirements. Let us help you to find the most economical method of grinding, finishing or polishing your production on your parts.

PORTER-CABLE Machine Co.
3685 N. SALINA ST., SYRACUSE 6, N. Y.
In Canada (except B.C.)- Write Strongridge, Ltd., St. Catharines, Ont.

▼ BRIEFIT—Identify by IEN-4653 if you write the maker ▼

CONTROL . . Tracer attachment automatically duplicates work on lathe

Source: MONARCH MACHINE TOOL CO.
613-17 N. Oak St., Sidney, Ohio



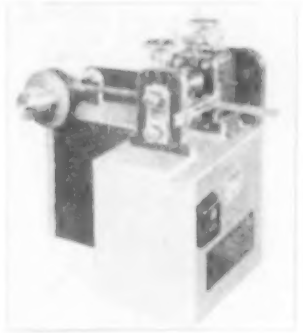
A flat template or engraved or work frequently required for work surfaces requiring open, valid, and adjustable or a model magazine for production work in one new Monarch Tracer control gives Monarch Tracer engages a cutter. The tracer is set to the required size for accurate duplication of the template or model. Tracer can be set to cut to within .001" of template size. Tracer control operates on Monarch lathes from 9" to 30" swing, and other Monarch lathes can be equipped with Tracer control. Write for Bulletin 50-T.

Power

▼ BRIEFIT—Identify by IEN-4654 if you write the maker ▼

SHEARING . . Wheel type machine slits, winds aluminum, brass, plastic

Source: STANAT MFG. CO.
47-30 - 37th St., Long Island City 1, N. Y.



Strip stock

The machine

All Makers of Every Kind, All Other Products Are Listed In THOMAS' REGISTER Descriptions Ratings See Page 16

▼ BRIEFIT—Identify by IEN-4655 if you write the maker ▼

Announcing A New LOW COST Ball Bearing for Non

LINEAR MOTIONS

THE COMMERCIAL GRADE SERIES B

BALL BUSHING

Sliding linear motions are nearly always troublesome. Thousands of progressive engineers have solved this problem by application of the Precision Series A Ball Bushing.

The low-cost Commercial Grade Series B bearing is now added to the Ball Bushing line and offered to original equipment manufacturers. This ball bearing has been developed for support of linear motions in competitively priced, volume produced products where super precision is not essential. Alert designers can now make tremendous improvements in their products by using Ball Bushings on guide rods, reciprocating shafts, push-pull cutters, or for support of any mechanism that is moved or shifted in a straight line.

Competition is returning. Up-to-date engineering can be important to you!

NEW 7½ NOW AVAILABLE

LOW FRICTION • ELIMINATE BINDING AND CHATTER • SOLVES SLIDING LUBRICATION PROBLEMS • LASTING ALIGNMENT • LOW MAINTENANCE • LONG LIFE

THOMSON INDUSTRIES, INC. MANHASSET NEW YORK

▼ BRIEFIT—Identify by IEN-4656 if you write the maker ▼

Only the **THERMOSWITCH CONTROL** solves "push button" coffee maker's complex control problem

FENWAL INCORPORATED
12 Pleasant Street, Ashland, Mass.
Temperature Control Engineers

Fenwal

WRITE FOR BULLETIN ON THE

THERMOSWITCH

The Precision Thermostat For Temperature Control and Detection

SENSITIVE . . . but only to heat

▼ BRIEFIT—Identify by IEN-4657 if you write the maker ▼

Cramer

WHERE **TIME** IS A FACTOR OF **CONTROL** IN INDUSTRY

INDUSTRIAL TIMERS

TIME DELAY RELAYS

SYNCHRONOUS MOTORS

RUNNING TIME METERS

For a wide range of standard timers and controls or special adaptations for specific applications — consult

THE R. W. CRAMER COMPANY, INC.
BOX 16, CENTERBROOK • CONNECTICUT

▼ BRIEFIT—Identify by IEN-4658 if you write the maker ▼

NEW! protection, durability and convenience

C/R

JAW-HEAD Rawhide HAMMER

CHICAGO Rawhide MFG. CO.
1292 ELSTON AVE., CHICAGO 22, ILL.

▼ REFER TO—Identify by IEN-4659 if you write the maker ▼

TUKON for Micro-Indentation Hardness Testing

Wilson now offers 4 models for use with either Knoop or 136° Diamond Pyramid Indenter.

Model MO — Mechanically operated — simple economical bench in four steps. Applies loads from 1 to 1000 grams.

Model FB — Fully automatic — most popular model. Applies loads from 10 to 3000 grams.

Model LR — "Long Range" model — the ultimate in hardness testing. Applies loads from 10 to 50,000 grams.

SEND FOR BULLETIN OF INFORMATION

Made by Wilson, manufacturer of "ROCKWELL" Hardness Testers and "ROCKWELL" Superficial Hardness Testers.

Model FB

WILSON MECHANICAL INSTRUMENT CO., INC. ACCO

AN ASSOCIATE COMPANY OF AMERICAN CHAIN & CABLE COMPANY, INC.

230 E. PARK AVENUE, NEW YORK 17, N. Y.

▼ REFER TO—Identify by IEN-4660 if you write the maker ▼

TAKE YOUR PICK

from the most complete line of drop-forged wire rope and chain fittings

Whether you want the famous Laughlin Pot Grip Safety Clips — the Laughlin Safety Hook with the "automatic locking lug" — or any other wire rope or chain fittings, you can get what you want from Laughlin. Your Laughlin distributor will be glad to see that you get the properly fitted

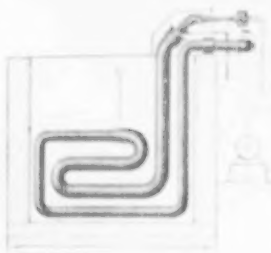
SEND FOR FREE BOOK

LAUGHLIN

THE MOST COMPLETE LINE OF DROP FORGED WIRE ROPE AND CHAIN FITTINGS

▼ REFER TO—Identify by IEN-4661 if you write the maker ▼

IMMERSION BURNERS for Solution Heating



Heats by combustion of gas in tubes submerged in liquid. By direct contact with the fluid, fast heating and exceptional fuel economy is assured. Available in both suction and atmospheric types. Standard immersion burner equipment available for 2-in., 3-in., 4-in., and 6-in. pipe, in capacities from 30,000 to 230,000 Btu per hour. Can be equipped with pilot, spark plug ignition and safe guard equipment.

WRITE FOR COMPLETE SPECIFICATIONS

'Surface' Standard Rated FURNACES

SURFACE COMBUSTION CORPORATION, TOLEDO 1, OHIO

▼ REFER TO—Identify by IEN-4662 if you write the maker ▼

TRUCK . . Two-wheel hand lift unit applies in pairs under crates, boxes

Source: THERMACOTE CO.
418-22 S. San Pedro St., Los Angeles 13, Calif.

Two cam wheels are mounted rigidly on a lever-rotated cross shaft at the top of this new Lifttruk. The wheels bear on uprights on which the tubular truck frame is telescoped. Operating the lever rotates them, raises the frame and its two adjustable load-carrying bars through 3 in. from a minimum clearance of 1 in. above the floor. The truck rides on rubber-tired or steel-wheel ball-bearing casters.

A pair of the units, one on each end or side of a crate or box puts the load in effect, on casters for movement in any horizontal direction. To raised position the operating lever locks so the load cannot be dropped accidentally.

Load capacity of a pair of the units is 2,500 pounds, over-all height in raised position is 20 inches. Width is 20 inches, length is 11½ inches. Clearance required to operate the lever is 41 inches. Each unit weighs 38 pounds.

▼ REFER TO—Identify by IEN-4663 if you write the maker ▼

MIXING . . Motor driven agitator can be entered through bung in a drum

Source: CONN & CO.
James St., Warren, Pa.

Type H, one of the complete line of motor driven agitators, is designed to enter through the bung opening in the head of 30 or 55 gal. drum. It is available with ¼ or ½ hp. motor for operation on 1 Ø current. A spider bracket is available also to mount the unit on an open-top drum.

Shaft and impeller are made of stainless steel or other metal as specified. A pneumatic motor is supplied for applications where explosion hazard exists.

▼ REFER TO—Identify by IEN-4664 if you write the maker ▼

INSULATING . . New commercial standard on mineral wool for heated industrial equipment

Single copies of [illegible] are available [illegible]

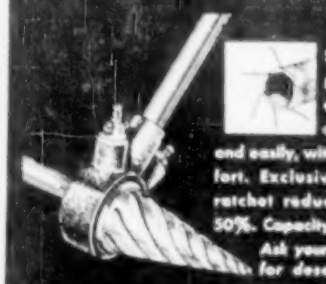
All Makers of These And All Other Products Are Listed in THOMAS REGISTER — Descriptions — Ratings — See Page 30

▼ REFER TO—Identify by IEN-4665 if you write the maker ▼

REED

SELF FEEDING RATCHET REAMER

Saves Time, Money and Effort



Spiral flutes with patented cutting edges cut burr cleanly, quickly and easily, with no pushing effort. Exclusive double-pawl ratchet reduces lost motion, 50%. Capacity ¼" to 2".

Ask your Jobber or Write for descriptive circular

In a vise or pipe tool . . .
if it's a REED, it's RIGHT

PIPE VISES AND STANDS | MACHINISTS VISES | THREADERS CUTTERS

REED MANUFACTURING COMPANY
ERIE, PENNSYLVANIA, U. S. A.

▼ REFER TO—Identify by IEN-4666 if you write the maker ▼

cut costs

with a Binks DP* portable spray unit

The only paint spray unit that gives you 1 H.P. performance at ½ H.P. cost

- Ideal for touch-up work, maintenance, small parts finishing, during spray operations on the floor.
- Powerful compact ½ h.p. 110-120 volt a.c. motor.
- Safe — no exposed moving parts, includes safety overload cut-out.
- Fulcrums chamber gives smooth, unbroken air flow at 40 lbs. Stops oil vapor from air.
- Portable — weighs but 47 lbs. Works anywhere there's an electric outlet.

Send today for your free copy of Bulletin No. 601, describing the DP unit and 6 spray gun combinations for use with it.

*Direct-drive Fulton

Binks MANUFACTURING COMPANY

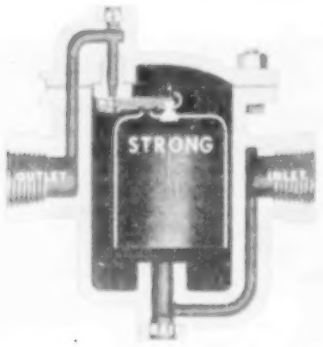
3120-34 West Carroll Ave., Chicago 12, Ill.

▼ REFER TO—Identify by IEN-4667 if you write the maker ▼

Get this *SMALL* TRAP

With

BIG TRAP quality features!



- Renewable stem-seat is reamed for resizing.
- Strong, patented, wear-resistant Anvil-Mold valve and seat—guaranteed leak-proof for one year. Strategically designed to Cap orifice gives greater capacity.
- Oversized pitch-compound chamber.
- Horizontal, silver-covered copper-graphite piston.
- Stainless 18-8 high-alloy bearings.
- Large piston pin.
- Stainless drop-forged stainless 18-8 bucket-type with.
- Soften down to inter-core surface.

Available for pressures from 0 to 250 psig. The strong No. 810 trap all stainless trap with strong. Built especially for use on laundry, restaurant and hospital equipment and in industry wherever small traps are a problem.

As with all Strong Semi-Steel Traps, the 810 is guaranteed against defects in material and workmanship for one year. Write today for Catalog 1161.

STRONG, CARLISLE & HAMMOND COMPANY
1392 WEST 3rd Street, U. S. A.
Cleveland 13, Ohio

STRONG

▼ REPRINTS—Identify by IEN-4669 if you write the maker ▼

STURDY, CONVENIENT, LOW-COST JIFFY ALL METAL CABINETS

FOR SMALL PARTS, DRILLS, TOOLS, CARBIDE TIPS AND MOUNTED POINTS

32 DRAWER UNIT • DIVIDES INTO 96 COMPARTMENTS **$8.95**

POSTAGE PAID

64 DRAWER UNIT • DIVIDES INTO 192 COMPARTMENTS **$15.95**

Rustproof Aluminum Drawers

Complete set of Dividers and Index Cards supplied.

APPROXIMATE SIZES
DRAWER: 1¼" Deep, 2¾" Wide, 8" Long
32 DRAWER UNIT: 6" Deep, 13¼" Wide, 15¼" High
64 DRAWER UNIT: 6" Deep, 25½" Wide, 15¼" High

Spot welded steel cabinet, metal finish drawer guides, enamel finish and solid one-piece aluminum drawers in antique satin finish. The first multiple drawer metal cabinet for convenient storage of small parts, drills, tools, carbide tips, mounted points, in assembly bench work or work in low cost. Order now for immediate delivery. Send check or money order or rated companies shipped on receipt of purchase order.

KAYTEE PRODUCTS
DEPT. L - BOX 555 - CANTON, OHIO

▼ REPRINTS—Identify by IEN-4670 if you write the maker ▼

KEEP SHORT RUN STAMPING COSTS DOWN

FREDDY FEDERAL SAYS . . . "For experimental or production units . . . it's quality, precision and speed that count . . . and the expert die makers, modern equipment, experienced workmen, and careful inspection at Federal assure quality stampings within 'controlled tolerances' whether three pieces or 20,000 pieces are required". Federal stampings are made in any shape . . . in any size up to 9" x 12" . . . any thickness up to 3/16" . . . from any material that can be stamped.

WRITE for this No. 101 Bulletin today!

SEND YOUR PRINTS TODAY . . . you'll be pleasantly surprised over the low cost and prompt deliveries.

Federal TOOL AND MANUFACTURING CO.
2606 ALABAMA AVE. (ST. LOUIS PARK)
MINNEAPOLIS, MINNESOTA
"QUALITY STAMPINGS IN SMALL QUANTITIES"

▼ REPRINTS—Identify by IEN-4671 if you write the maker ▼

One Compact LEPEL HIGH FREQUENCY HEATING UNIT

Does all these jobs Faster, Better and Cheaper . . . multiplying production while maintaining a degree of precision and accuracy rarely attainable by other methods. Simple, dependable and clean in operation . . . Relatively inexpensive.

Send samples and specifications of your work for free processing and recommendations.

Lepel

LEPEL HIGH FREQUENCY LABORATORIES, Inc., 39 West 60th Street, New York 23, N. Y.

WRITE FOR LEPEL CATALOG IN-5

▼ REPRINTS—Identify by IEN-4672 if you write the maker ▼

TUMBLING . . Bench mounting machine for small work and experimental use

Source: BELKE MFG. CO.
941-45 N. Cicero Ave., Chicago 51, Ill.

Models 2 and 3 in the company's line of tumbling barrels, for deburring operations parts, nuts, are available with variable speed drive in place of the single-speed V-type drive originally provided. The new arrangement makes it possible to experiment with a given operation for the speed best suited to a production run.

The two sizes operate between 8 and 30 to 36 width. Datative across the face in radial direction at 20 and 29 inches. Load rating based on one-half the total capacity or volume content is 2 and 3 cubic feet. Opening measures 6⅝ by 6⅝ inches. Horizontal overall dimensions are 24 by 30 in and 25 by 36 inches. The assembly includes perforated and solid trays for work and washing apparatus.

▼ REPRINTS—Identify by IEN-4673 if you write the maker ▼

CONVEYING . . Coated fabric belt to handle oiled coke at 180 deg. F.

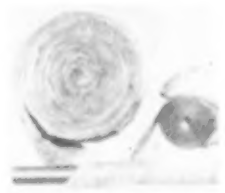
Source: RAYBESTOS-MANHATTAN, INC.
63-65 Willett St., Passaic, N. J.

Heat and oil Parasitic GOF do not harm it

▼ REPRINTS—Identify by IEN-4674 if you write the maker ▼

INSULATING . . Fiberglas and tape to stop pipe line condensation drip

Source: GRO-QUICK CO.
332-42 W. Huron St., Chicago 10, Ill.



Wrap on Insulation

All Makers of Items Are Listed in THOMAS' REGISTER Descriptions Ratings See Page 10

▼ REPRINTS—Identify by IEN-4675 if you write the maker ▼

New! di-acro BOX FINGER BRAKE

Four models 6" 12" 18" 24"
Capacity—16 Gauge Steel

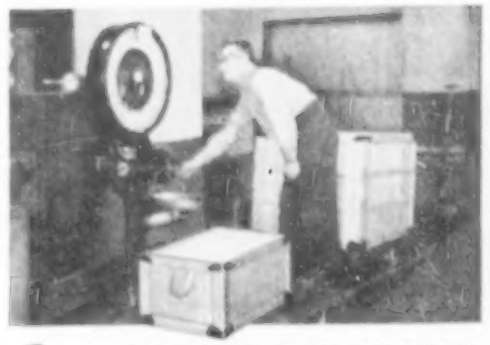
3 TOOLS IN ONE
1 BOX and PAN BRAKE
2 STANDARD BRAKE
3 EAR FOLDER

Send for 40 PAGE CATALOG

Di-Acro is pronounced "DIE-ACK-RO"

DI ACRO O'NEIL-IRWIN MFG. CO.
318 EIGHTH AVENUE, LAKE CITY, MINN.

▼ REPRINTS—Identify by IEN-4676 if you write the maker ▼



From OUNCES to POUNDS

a handling problem solved with LEWIS CONTAINERS

Handling stamped, forged, machined, molded and assembled parts of various sizes, shapes and weights from Receiving to Shipping is no problem for this Midwest regulator manufacturer since a system of Lewis Woven Wood and Wire Containers was installed. Check to see if your system is meeting today's tight-lated economy. Send for details.

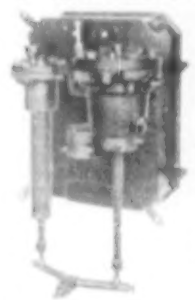
G. B. LEWIS CO., 801 MONT ST. • WATERTOWN, WIS.

SKID BOXES
STACKING BOXES
SHIPPING BOXES
BOX TRUCKS

LEWIS
INDUSTRIAL CONTAINERS

Also Mfrs. of Airplane Propellers, Bee Ware, Venetian Blind Slats, and Golf Ball Washers

▼ REPRINTS—Identify by IEN-4677 if you write the maker ▼



PROMPT DELIVERY

ON TAYLOR MERCURY FLOW METERS

WITHIN six weeks of your order we can ship the best, most reliable, rugged Taylor Unit Mercury Flow Meter. Perfect wherever you need something more than pressure differential pressure measuring or Thermal Conducting . . . Turbine, Rotameter and pressure-gauged shaft "feel" great power to the pen.

1. High Accuracy . . . Inherent straight line calibration.
2. Positive Actuation . . . High energy output . . . Big Toe Float . . . Long float travel . . . Simple, sensor system.
3. Dependable Performance . . . Submerged check valves for positive shut-off . . . Unique damping valve adjustable under pressure without leakage . . . Plenty of room in mercury chambers for surges or pulsating flows . . . Teflon bridge pressure gives long service.
4. Great Adaptability . . . 9 interchangeable range tubes 10", 20", 40", 100", 200" and 400" of water. All Tubes easily changed in field . . . Both side and top pressure connections . . . 2 Manometers can be mounted on back of single cases for recording 2 flows or for ratio-flow control.
5. Easy Maintenance . . . Easy to reach float and lever arm for calibration . . . Teflon pressure tight bearing easily replaced at low cost. Ask your Taylor Field Engineer OR write for Catalog 9817S.

Taylor Instrument Companies, Rochester, N. Y. and Toronto, Canada. Leaders for controlling, recording and measuring temperature, pressure, humidity, density and liquid level.

▼ REPRINTS—Identify by IEN-4678 if you write the maker ▼

OSTER "Spinfast" SPEED CHUCK

EXCLUSIVE FEATURE!!!!

IT'S FASTER . . . It's SAFER to chuck with rubber cap as supplied with the "SPINFAST" Speed Chuck . . . an EXCLUSIVE and patented feature of Oster Reversing machines Nos. 502 and 503 ("Cat Model") to 503 "Toy Model" and No. 504 and 505 ("Sportsman").

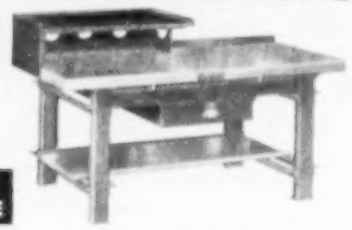
These machine power drivers have a standard range of 0 to 2 revs. drill range 0 to 1/4" capacity. Write for new CONDENSED CATALOG for more details on the outstanding features of Oster portable and bench type grinding machines.

THE OSTER MANUFACTURING CO.
2053 EAST 61st STREET • CLEVELAND 3, OHIO, U. S. A.

REFER TO INDUSTRIAL EQUIPMENT NEWS IN YOUR INQUIRIES TO MANUFACTURERS SO THEY CAN SEND SPECIFIC INFORMATION

▼ BRIEFITS—Identify by IEN-4679 if you write the maker ▼

The Experts Choose
CHALLENGE
WORK BENCHES



BECAUSE THEY HAVE

1. Heavily ribbed, smooth, re-machined unbreakable cast iron top.
2. Table equipped with lock-leveling screws.
3. Sturdy steel welded base with large steel shelf.
4. Steel tool box shelf supported clear of bench top.
5. Steel guard rail at back.
6. Steel drawer with lock.
7. Portability.

Challenge
THE CHALLENGE MACHINERY CO.
GRAND HAVEN, MICHIGAN

▼ BRIEFITS—Identify by IEN-4680 if you write the maker ▼

FOR QUIET TELEPHONING
-ANYWHERE
USE A BURGESS-MANNING ACOUSTI-BOOTH

Thick walls of sound-absorbing material soak up noise. You can hear easily . . . talk comfortably in noisy surroundings. Suited to any location. Modern in appearance. Wall and floor models.

ALSO • Stores
• Bus Terminals
• Banks
• Offices

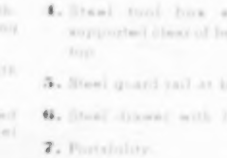
MAIL COUPON FOR FREE BULLETIN

BURGESS-MANNING COMPANY
743-A East Park Avenue, Libertyville, Illinois
Please send booklet describing Burgess-Manning Acousti-Booths.
Name
Firm Name
Street — City

▼ BRIEFITS—Identify by IEN-4681 if you write the maker ▼

Glove costs cut 65%

CASE NO. 194



WORN 4 HOURS By Rockford's Helper

The last make comparable savings: On hard-finishing and work where perspiration, abrasive or slippery materials are handled, Grab-it gloves for workers' hands, or outdoor laboring and gang work, give up to 3 times longer wear. Reinforced material provides extra strength where it's needed most. Heavy, tough, long-wearing cotton jersey, knitted in one piece and thumb.

MANAGEMENT

Grab-it
Edmont Mfg. Co.

▼ BRIEFITS—Identify by IEN-4682 if you write the maker ▼

MOTOR . . Multiple speed ac., 1/40 to 1/8 hp., for fans and blowers

Source: MARCO INDUSTRIES INC
1600 Terrace Blvd., Depew, N. Y.

Tri-motor designates a new line of shaded-pole motors in which the motor windings are designed and tapped to provide two or three speeds without need for an external choke coil for fan or blower service only. Each motor is developed to meet a specified set of conditions and preferably is actually applied and tested on a sample installation submitted by the prospective user so the correct speeds can be assured. Coil and stator assemblies are included in the line with open and enclosed end-bell constructions as well as an end motor and resilient or rigid base.

Total turns in the winding for a given motor are determined by the minimum required operating speed. The coils are wound with a tap at the desired number of turns from the start of the coil to operate on full power for high speed. The intermediate speed taps, if so required, is obtained by tapping in the connections between the coils at some point between the high-speed tap and the finish of the winding.

▼ BRIEFITS—Identify by IEN-4683 if you write the maker ▼

INSULATING . . Vibration isolator for delicate instrument mounting

Source: EBERBACH & SON CO.
P. O. Box 62-A, Ann Arbor, Mich.

Concrete platform No. 78-002 and four Lord multiplate shock-absorbing feet make up a new vibration-isolating base on which to mount laboratory instruments that must be protected against vibration or magnetic influence. The base absorbs frequencies above 10 cps. Its recommended load range is 20 to 40 pounds. The base weighs 20 lb., measures 22 by 12 by 2½ in. and floats freely in 2½ inches. List price is $30.

▼ BRIEFITS—Identify by IEN-4684 if you write the maker ▼

FORGINGS . . Book of 194 pages on open-die ferrous forging practice; specifications

Forging Industry Association, Inc.
616 Hanna Bldg., Cleveland 15, O.

"Manual of Open Die Forgings" forms new book, first price for members is 50¢ per copy. Non-members, $1. Book is 8½ by 11 in. and contains 194 pages. It covers practices, specifications, inspection used in making open-die ferrous forgings. It also is intended to explain and clarify existing terminology. There are 24 pages of tables at the back along with a collection of illustrations of forging parts.

50 Makers of These And 50 Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 50

▼ BRIEFITS—Identify by IEN-4685 if you write the maker ▼

The most versatile fixture for quick accurate indexing... SUPER-SPACER

This fixture allows rigid control of accurate machining operations within its scope at speeds and feeds limited only by the capacity of the holding means and the power of the machine. Standard mask plates have 2, 3, 4, 6, 8, or 12 divisions. Specials made to order. All Super-Spacers come complete with mask plates, Universal chuck and chuck wrench. Write for Bulletin S-101.

HARTFORD Special
The HARTFORD SPECIAL MACHINERY Co., Hartford 5, Conn.

▼ BRIEFITS—Identify by IEN-4686 if you write the maker ▼

CANNON PLUGS

UA SERIES
(Ultimate Audio Connectors)
THREE 15-AMP. CONTACTS

Latest development in the connector phase of audio engineering is the new series of microphone and sound control connectors designed and built by Cannon Electric to RMA Connector requirements and standards. Briefly, following features should be noted:

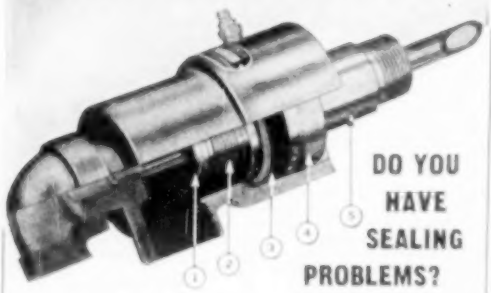
Rotary interlock (J. Shockproof (J. R.F.I. Floating Socket Contacts (J. Splashproof (J. Strain relief shells (J. Rubber inserts for cable relief (J. Grounding Contact (J. Gold plated 15-amp. contacts for low loss.

Write to Cannon Electric Development Company, Division of Cannon Manufacturing Corporation, 3209 Humboldt Street, Los Angeles 31, California, or contact one of the following Cannon Electric Sales Engineering Offices: Dallas, Denver, Detroit, Houston, Los Angeles, New Haven, Orlando, Phoenix, Salt Lake City, San Francisco, Toronto, Ont.

SINCE 1915
CANNON ELECTRIC

▼ BRIEFITS—Identify by IEN-4687 if you write the maker ▼

"Where Good Connections Count"
ROTARY-UNIONS



DO YOU HAVE SEALING PROBLEMS?

If so you will be interested in the advantages offered by replacing old type packing joints with ROTARY UNIONS. Write for new catalog explaining dependability and economy of All Purpose ROTARY UNIONS.

(1) Silver brazed construction. (2) Heavy monel bellows. (3) Non porous graphite seal ring. (4) Radial thrust ball bearing. (5) Heavy steel shaft. Available in pipe sizes from ¼" through 3".

PERFECTING SERVICE COMPANY
334 Atando Avenue, Charlotte, N. C.
Telephone 5-4831

▼ BRIEFITS—Identify by IEN-4688 if you write the maker ▼

LOWER COSTS
Increase Production
with STONE
"SWING-CUT"

STONE MACHINERY CO., INC.
818 Fayette St., Manlius, N. Y.

▼ BEEFITT—Identify by IEN - 4689 if you write the maker ▼

Shown here are fabrications typical of the service provided by Naylor engineers. Special fittings, manifolds, ovens and other equipment from simple units to the most complicated layouts can be precision built to meet your most rigid requirements.

Write for details or send specifications for quotation.

NAYLOR PIPE COMPANY
1235 East 92nd Street, Chicago 19, Illinois
New York Office: 350 Madison Avenue, New York 17, N. Y.

▼ BEEFITT—Identify by IEN - 4690 if you write the maker ▼

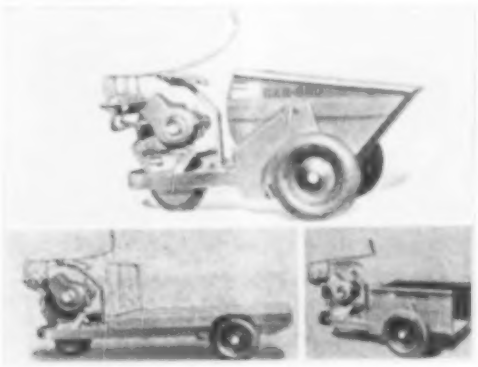
NOW... OBI Presses by CLEARING

CLEARING MACHINE CORPORATION
6499 W. 65th Street • Chicago 38, Ill.

▼ BEEFITT—Identify by IEN - 4692 if you write the maker ▼

TRUCK . . Dump and platform designs, engine drive, rates 1 ton, 14 cu. ft.

Source: GAR-BRO MFG. CO.
2414-18 E. 16th St., Los Angeles 21, Calif.



The operator rides (from rear) ... changes in the company's original engineering. Driver-load being much previously described IEN 1950-18. The tapering enclosed sheet body and side handling tray and the gasoline can interchange also. A U-latch restrains the tray and a lift hook holds it at desired angle.

The 2 hp. engine is positioned on the steering lever which is depressed for forward movement, lifted up for reverse, released to disengage the drive. Engine speed is varied at a foot throttle. Steering is of the rear wheel type, a minimum radius of 4 feet.

Construction is in steel plate or welded assembly. Moving parts are mounted on Timken roller bearings. Dimensions are 82 by 39 by 40 inches. Weight is 600 pounds.

▼ BEEFITT—Identify by IEN - 4693 if you write the maker ▼

PULLING . . Wire rope fairleader swivels on roller bearings in housing

Source: AMERICAN HOIST & DERRICK CO.
61 S. Robert St., St. Paul 1, Minn.

Three sizes ... with roller fairleaders (sides No. 1 and 11) to wire rope. Each will develop the full strength of the rope it accommodates in tandem lead of 45 degrees. The assembly is made of steel with a chrome-nickel roller bearing and the revolving spindle on Timken tapered roller bearings. It guides rope that operates with the sheaves as positioned, or is removable pin. Frame is sufficient clearance through the housing with the spindle removed to thread a rope with a ready-made splice through it.

Length ... to the position desired, is about 20½ in. to 32 inches. Height is 12½ to 30½ inches. The opening is 8 or 10 in. in diameter. Weight is 300 to 1,100 pounds. The guide-roller rides in self-lubricated bushings. Alemite grease fittings are at the other bearings.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

▼ BEEFITT—Identify by IEN - 4694 if you write the maker ▼

THE MATEER ELECTRIC FILLER HANDLES THEM ALL!

LIQUIDS - OILS - POWDERS - PASTES
COMBINED LIQUIDS AND SOLIDS
1,500 cc. to 5 Pounds
20 to 70 Per Minute
-20 to 750° F.

SAVE TIME AND MONEY WITH THE MATEER ALL ELECTRIC FILLING HEAD

Totally enclosed, manual or automatic. Interchangeable in three or more machines. Use self-contained filling head with existing production lines and processing systems.

Jacketed and electrically heated hoppers available for handling cold and hot materials up to 750° F.

Hot wax, insulating compounds and asphalts handled without difficulty.

Send full information and samples of material to be tested. Write Dept. 106 for fully illustrated bulletin.

G. DIENL MATEER & CO.
Lincoln Highway • Devon, Pa.

▼ BEEFITT—Identify by IEN - 4695 if you write the maker ▼

• Here is one of the methods of sealing a rotating shaft against the escape of gas or liquid. Note how simply it can be installed with a few plain bolts.

For complete details on this and other applications, including Shaft Seals without pressure ... [illegible] ... Write for your copy today.

FULTON SYLPHON
DIVISION
ROBERTSHAW-FULTON CONTROLS CO. • • KNOXVILLE 6, TENN.
Temperature Controls • Pressure Controls • Electronic Assemblies

▼ BEEFITT—Identify by IEN - 4696 if you write the maker ▼

Kester Solder

Kester engineers, with over 100,000 different types and sizes of solder available, will specify the right flux core solder for the job.

Easier to Use

Using the most suitable solder for each operation will enable solderers to work at top speed without sacrificing quality. No rejects.

Top Quality

Only newly mined grade A tin and virgin lead used. Flux — chemically correct.

KESTER SOLDER COMPANY
4201 Wrightwood Ave., Chicago 39
Newark 99, N. J. • Brantford, Canada

KESTER SOLDER

SEND FOR FREE MANUAL
"SOLDER and Soldering Technique"

▼ BEEFITT—Identify by IEN - 4697 if you write the maker ▼

Quick, Thorough Cleaning!

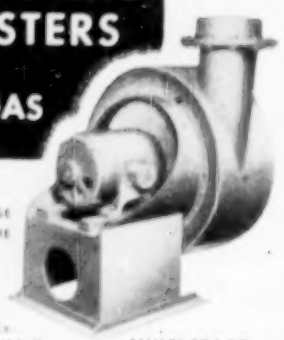
General Electric Heavy-duty Vacuum Cleaners

MAIL TODAY

GENERAL ELECTRIC

▼ REFER TO IEN-4698 ▼

BLOWERS and EXHAUSTERS for AIR and GAS



CENTRIFUGAL TYPE
SINGLE AND MULTI-STAGE
UP TO 7 LBS. PRESSURE
UP TO 250 HP

MULTI-STAGE STEEL BLOWER

Since back in the '20's, these trustworthy Blowers and Exhausters have been faithfully serving America's industry — for agitation and aeration — for combustion — for cooling and ventilating — for gas and acid production — for conveying — and numerous other applications having various pressure and vacuum requirements.

If you have a problem in handling air or gases of various densities, temperatures or chemical compositions, write today for latest bulletin, B-5, on Lamson Blowers and Exhausters.

LAMSON CORPORATION
BLOWER DIVISION
442 LAMSON ST. SYRACUSE 1, N. Y.

▼ REFER TO IEN-4699 ▼

FASTER SAFER EASIER with BAKER SCAFFOLDS

UL

BAKER SCAFFOLD

BAKER-ROOS, INC.
602 W. McCARTY STREET
INDIANAPOLIS 6, INDIANA

▼ REFER TO IEN-4700 ▼

MODERN MACHINERY

HEAVY-DUTY

FOR ALL TYPES OF EQUIPMENT

MINNEAPOLIS-MOLINE
MINNEAPOLIS 1, MINNESOTA

▼ REFER TO IEN-4701 ▼

LUBRICATING . . Vacuum feed oiler connects to engine intake manifold

Source: UNIVERSAL LUBRICATING SYSTEMS INC.
745-9 Allegheny Ave., Oakmont, Pa.

Lubricant in jar is withdrawn amount exactly in the gas or gasoline entering an internal combustion engine to lubricate the upper walls of the cylinders, the pistons, the upper rings and the valves by means of this recently improved No. 3000 Top Oiler. The unit encases a glass container for the oil and a lid-mounted pair of tubes connecting to a mixing chamber.

Vacuum supplied by the engine draws air down through one tube into the oil from where it bubbles back to the surface. Atmospheric pressure on the oil forces it upward through a second tube to flow into the mixing chamber. Oil and air from this chamber pass through suction line to connection at the intake manifold.

▼ REFER TO IEN-4702 ▼

CLEANING . . Floor scrubbing machine washes, rinses and picks up the water

Source: FINNELL SYSTEMS INC.
2601 East St., Elkhart, Ind.

Scrubber-Vac No. 115-F is a new assembly of the company's motor-driven floor scrubbing and vacuum-pickup machine. It mounts on twin brush, is designed for floor areas from 2,000 to 10,000 square feet. Power is brought to the machine through a reel, mounted on the housing to carry a long extension cord. The housing has provision for clean water, washing solution and for storage of spent water and dirt. The machine can be operated without the water and cleaning solution to scrub, clean and pick up dirt.

▼ REFER TO IEN-4703 ▼

CASTINGS . . Descriptive booklet on up-to-date foundry practice and products

Campbell, Wyant & Cannon Foundry Co.
50 Henry St., Muskegon, Mich.

"Science in the Foundry" is title of new 20-page booklet which shows how the company has applied metallurgical engineering, precision controls and production mechanization to its foundry. Photographs illustrate the text on facilities and on types of parts such as cylinder blocks, crankshafts, piston rings, valves, brake drums, produced by casting.

All Makers of These And All Other Products Are Listed in THOMAS REGISTER Descriptions Ratings See Page 10

▼ REFER TO IEN-4704 ▼

New Method Gives Precise Control in Air Conditioning

NIAGARA "Controlled Humidity Method" Uses HYGROL, Hygienic Liquid Absorbent

● This new method gives complete control of temperature and relative humidity, holding constant conditions at exactly those of the well-off the seat. Especially it provides for air at normal atmospheric temperature with little or no refrigeration required.

The unit is shown and there comes a chamber where at points there is spray of "Hygrol" liquid to remove humidity-charged that absorbs the air from the moisture and contains no salts or solids to precipitate. In the same chamber, cooling coils remove the latent heat of evaporation and the sensible heat as required.

The absorbent liquid spray falls into a sump at the base. It is piped to a concentrator, removing excess water taken from the air. The reconcentrated liquid returns to the system. Hygrol is non-corrosive, and the apparatus operates entirely at low velocity.

The equipment is manufactured in sizes providing from 100 to 70,000 CFM of conditioned air.

Installations have been made in food and chemical process industries, in packaging, hygienic products, for processing and treatment of materials, in metals and other products in which air conditioning for laboratory control and for human comfort.

For further information, write Niagara Blower Co., Dept. IN-80, Lexington Ave., New York 17, N. Y.

▼ REFER TO IEN-4705 ▼

SAFE VERTICAL STORAGE

Neff & Fry Storage Bins keep their contents safe from fire, storm, corrosion, moisture and theft. This is due to construction unsurpassed which have proven their superiority in actual performance for 30 years.

The unique feature of N. & F. Storage Bins is the sheet-metal frame. It is formed and riveted right-angle and diagonal panels, each interlocking with the adjoining ones. Horizontal joints are also locked. Galvanized steel hoops around the outer sheet engage directly upon all the stave joints.

The staves are formed under great pressure. They are done to texture and have such high compression strength that superstructures are frequently built on top of N. & F. Bins without extra supports.

Shown in the photo is a 24-ft. dia. x 66-ft. high N. & F. Bin erected for Speer Carbon Co., Punxsutawney, Pa. It is used for storing calcined coke. Capacity is 475 tons.

Before you reach any conclusions on vertical storage structures, be sure to get all the facts about N. & F. Bins. Complete information will be gladly sent upon request.

THE NEFF & FRY CO.
East Central Ave., Camden, Ohio

NEFF & FRY STORAGE BINS

▼ REFER TO IEN-4706 ▼

servicing—NO man-hours
repairs—NO man-hours

Maintenance Foreman Looks at
MONARCH SOLID TIRES

It comes out zero for maintenance, no matter how you figure it—and that's not all. Monarch Solid Tires have an extra long service life, so they lower materials handling costs that way, too. They're tough, stable, surefooted, and they can't puncture. Monarch-equipped vehicles go anywhere in the plant.

Monarch specialization pays off for you in better industrial tires, including special types for specific applications, such as Monarch Easy-Roll, Cushion, Static Conductor, and Neoprene Tires.

Write for specific information on the application of Monarch Solid Tires in your plant. THE MONARCH RUBBER CO., 201 Lincoln Park, HARTVILLE, OHIO.

Specify Monarch Solid Tires on your industrial vehicles. Monarch Tires for replacement available from the manufacturer of your equipment.

MONARCH

Specialists in Industrial Solid Tires and Molded Mechanical Rubber Goods

▼ ——Identify by IEN-4708 ▼

...IN THE PRODUCTS YOU BUILD

Manufacturers equip your products with the finest floats available—*Stainless Steel Floats* from Chicago Float Works. Your product can have no better assurance of long trouble free float performance. You get all of the plus values of *Stainless Steel* along with Chicago Float Work's more than thirty years of specialized experience in engineering and building floats for industry.

....check these features

CORROSION RESISTANCE Stainless Steel shields up better under severe services in many different kinds of corrosive fluids.

EXTREME STRENGTH Will withstand pressures up to 2000 lbs. Temperatures to 600° F.

LIGHTER Less weight affords extra buoyancy making for more positive float action.

COMPLETE LINE Diameters 3 to 10 in. Special sizes to order. In standard or special float connections. Wide variety of spring sizes, shapes, quick connections and complete engineering data.

CHICAGO FLOAT WORKS, INC.
2326 S. Western Ave., Chicago 8, Illinois

▼ ——Identify by IEN-4709 ▼

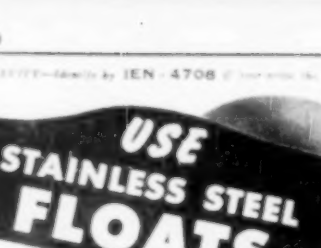
GET THE FACTS NOW!

Potter

HIGH SPEED ELECTRONIC

PREDETERMINED COUNTERS

For these applications:
- AUTOMATIC MACHINE CONTROL
- PACKAGING BY PREDETERMINED COUNT
- LINEAL MEASUREMENTS
- FREQUENCY MEASUREMENTS
- TIME INTERVAL CONTROL



The ONLY counter with ALL these features!
- COUNTS AT RATES UP TO 60,000 PER MINUTE
- ABSOLUTE ACCURACY
- INSTANTANEOUS AUTOMATIC RESET
- NO MOVING PARTS, FRICTION OR INERTIA
- SIMPLE DIAL SELECTION OF COUNT

Potter Predetermined Electronic Counters extend the field of automatic counting and control far beyond the scope and capabilities of existing mechanical and electromechanical devices. There are no moving parts — therefore, wear, slippage and inertial effects are eliminated.

Although the standard models count at rates up to 60,000 per minute, counters capable of counting at higher rates are available.

A complete line of photoelectric and electromagnetic detectors, for counting any material or action, can be supplied.

The instruments are easily applied to any problem requiring the precise measurement or control of QUANTITY, LENGTH, TIME, FREQUENCY, REVOLUTION or CAM SEQUENCE. Absolute accuracy of count is guaranteed.

Write today for an accurate appraisal of your counting, timing or control problem. Fill out the handy coupon.

Potter **POTTER INSTRUMENT CO.**
INCORPORATED
136-16 ROOSEVELT AVE., FLUSHING, NEW YORK

I am interested in the items checked. Please send complete information at once.

NAME ..... TITLE .....
COMPANY .....
STREET .....
CITY ..... ZONE ..... STATE .....

- ☐ COUNTING
- ☐ PACKAGING
- ☐ SORTING
- ☐ BATCHING
- ☐ MACHINE CONTROL
- ☐ TIMING
- ☐ PROCESS CONTROL
- ☐ FREQUENCY MEASUREMENT

▼ ——Identify by IEN-4711 ▼

CONTROL . . Electric instrument supplements pyrometer control action

Source: CLAUD S. GORDON CO.
3002 S. Wallace St., Chicago 16, Ill.

Xactline trade names new electric instrument consisting of two anticipator tubes containing resistance thermometer and small heating element for operation with a conventional relay. The instrument applies with any on-off or modulating controller with the tubes connected differentially with each other and in series with the positive thermometer lead of the control bulb. Change in control temperature to effect increase or decrease in anticipation and the controls are actuated before the control point is reached.

Two models are available for 110 or 220-volt AC cycle operation for use with electric furnaces, solenoid valves and Bartlett-Hollister or Minneapolis-Honeywell control systems, respectively or unifunctional. Application also can be specified with gas-fired equipment operated by solenoid valves or motor-operated valves. List price is about $90.

▼ ——Identify by IEN-4712 ▼

STEEL . . Drill rod in stock in 3-ft. lengths, 1/16 to 1 1/2 inches

Source: MARSHALL STEEL CO.
50 Thomas St., McCook, Ill.

Lists at 55 cents to $35 per pound

Drill rod in custom sizes up to 4 in. including flat stock and square wire and going through 1 1/2 in. to 6-diameter bar sizes added to the company's line of flat ground stock under the trade names of Arvotal, Oilrite and Waterseal. Standard length is 36 inches, shorter pieces can be supplied for drawing-die applications to specifications.

▼ ——Identify by IEN-4713 ▼

STRAPPING . . Retaining strips to hold package loads at car doorways

Source: SIGNODE STEEL STRAPPING CO.
2611 N. Western Ave., Chicago 47, Ill.

New duplex strip has been added to the company's previously developed single strip for use on multiple rows of freight cars being loaded from one side platform. The far car is equipped with the original single strip. Duplex strips are applied and then cut apart on the other doorways. At each car is fitted the two duplex parts are brought together and sealed and the car door is closed. The strip is made of reinforced kraft paper.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER ... Descriptions ... Ratings ... See Page 10

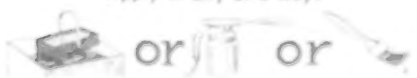
▼ ——Identify by IEN-4714 ▼

Revolutionary

OXYNITE "122"

The New Deep Penetrating COLD Process for Blackening Steel--- Forgings--- Cast Iron--- Zinc---

Apply in any of 3 ways



Dip Spray Paint

No heat required.

Time to Tee Ground Dip or Roll Penetrating Properties Tool—Rust Resisting—Flexible—Fits Mixers and Tumbler-Saving Process Operator Has Been Looking For

Available in 55 gallon or smaller quantities with 30 gal. or more recommended where no set-up of equipment is required.

Write for complete data.

Bluepoint Chemical Division

BROWNELL INDUSTRIES, INC., MONTEZUMA, IOWA

▼ ——Identify by IEN-4715 ▼

HILCO for Lubricating, Fuel and Industrial Oil Purifying... To save oil, equipment and money

There is a HILCO unit available for every type of oil purifying problem.

Where oil is used it becomes contaminated and a HILCO will clean it. Tell us about your oil purification problems. FREE literature will show you how to solve them.

THE HILLIARD CORPORATION
32 WEST FOURTH ST., ELMIRA, N. Y.

▼ ——Identify by IEN-4716 ▼

THAT'S GEAR CUTTING, Packard!

MACHINE USED	ONE SHEAR SPEED (external)	ONE SHEAR SPEED (external)	
	Cylinder (Roughing)	Pressure Plate	Hydr. Piston Plate
Part Produced	12	12	12
Approx. Pitch Diameter	1.516	578 (2.85:1)	582 (2.85:1)
Length of teeth cut (in.)	85/80	200-240	200-240
Output per hour	24 sets	24 sets	24 sets
Machine Cycle Time	---		1/100th HP for generating tools
Estimated Tool Maintenance Cost	Main Roughing		Approx. 3 hrs. total (complete set up)
Change over time	12 (single spindle)		Six (6 spindle type)
Equivalent number of generating machines for same production			

Maximum Allowable Errors: Involute profile 0.0004 in. Index 0.001 in. with any tooth. Parallel 0.001 in. per inch of tooth length.

Ask for BULLETIN 1800-47

MICHIGAN TOOL CO.
7171 E. McNICHOLS ROAD • DETROIT 12, U. S. A.

▼ ——Identify by IEN-4717 ▼

NEW BAKER FORK TRUCK Model 41

Costs less to buy— Does more work per dollar— because of its **100% FUNCTIONAL DESIGN**

- Greater Visibility
- More Comfortable to ride
- Easier to operate
- Interchangeable Uprights
- No-Play Controller
- Baker Built Motors
- Soft Touch Brakes
- Cushion Tires
- Worm Drive Axle
- Wide Angle Steer
- All Steel welded Frame

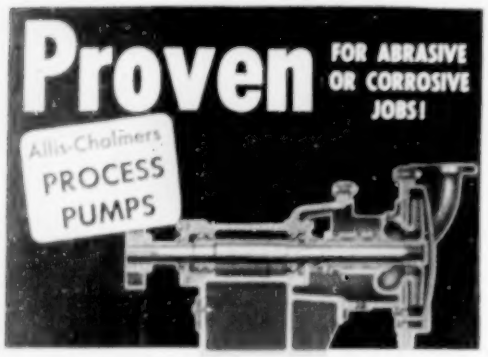
LEARN HOW LITTLE THIS TRUCK COSTS!

Write for full descriptive data and prices and see for yourself why this Baker 41 costs less to buy and does more work per dollar because of its 100% functional design.

BAKER INDUSTRIAL TRUCK DIVISION
of The Baker-Raulang Company
1226 West 80th Street • Cleveland 2, Ohio

Baker INDUSTRIAL TRUCKS

▼ BRIEFITS—Identify by IEN-4718 if you write the maker —▼



ALLIS-CHALMERS PROCESS PUMPS are designed for jobs on which ordinary pumps, even of special materials, quickly show excessive wear.

Users report savings as much as $1,000 per year per pump! Stock shipment on pumps and parts in aluminum bronze, 20 nickel cast iron, 18% chrome steel, and 316 Stainless Steel. Call your A-C Authorized Dealer or Sales Office, or write for bulletin 08B6612.

CHECK THESE ADVANTAGES!

* Stuffing box on suction side of pump cuts leakage.
* Parts subject to normal wear can be individually replaced.
* Thicker metal offers longer life than ordinary design.
* Double volute casing balances radial hydraulic pressures.
* Adjustment compensates for wear without replacements.

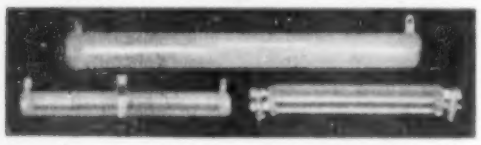
ALLIS-CHALMERS, 909A SO. 70 ST. MILWAUKEE, WIS.

A-2264

ALLIS-CHALMERS

▼ BRIEFITS—Identify by IEN-4719 if you write the maker —▼

HARDWICK, HINDLE'S
NEW NATIONAL RESISTORS
Completely Sealed . Completely Satisfactory



✓ resistance unit higher resistance to vibration and shock.

✓ the resistance wire made to U.S. specifications especially adapted to those conditions in which uniformity sought so that failures under stress are eliminated.

✓ the special alloy terminals are brazed securely backward to the ceramic body for rapid welding. Highly resistant to corrosion.

✓ all wire connections protected by a concentricore bonding.

and . . .

✓ new Hi-watt resistor coating combines thermo-shock proof with greater protection throughout the most rugged service. Longer life under corrosion of humidity, salt water and similar atmospheric conditions. And, by withstanding higher heat dissipation afford a greater safety factor.

The Bond, the ferrule and the flat types are especially designed for and manufactured in accordance with JAN-R-26A specifications. Write today for new bulletin.

HARDWICK, HINDLE, INC.
Subsidiary of
THE NATIONAL LOCK WASHER COMPANY
40 HERMON ST. NEWARK 5, N. J. U.S.A.

▼ BRIEFITS—Identify by IEN-4720 if you write the maker —▼

S.S.WHITE Elastoplastic
PLUGS and CAPS

Slipped into or over the ends of plain tubing, these plugs and caps protect the ends and keep out dirt and moisture.

Made of flexible Vinylite plastic, they are resistant to most oils, offer high electrical insulation, and are easily applied and stay put. For details

WRITE FOR BULLETIN P-4704.

S.S.WHITE PLASTICS DIVISION
THE S.S. WHITE DENTAL MFG. CO.
DEPT. AP 10 EAST 40th ST., NEW YORK 16, N. Y.
FLEXIBLE SHAFTS AND ACCESSORIES
MOLDED PLASTICS PRODUCTS—MOLDED RESISTORS

▼ BRIEFITS—Identify by IEN-4721 if you write the maker —▼

DRAFTING . . Parallel arm machine is stable on board tilted to 20 degrees.

Source: V. & E. MFG. CO.
P. O. Box 950-M, Pasadena 20, Calif.

Versatilt is the name for improved design of the company's drafting machine in which a spring counterpoise is attached to the support bracket to hold the machine against sliding on a board that has been tilted as much as 20 deg. from horizontal. A second point of improved design is in the indexing mechanism to provide for a secure grip and easy locking release to set angle positions.

The protractor is graduated in degrees and a vernier permits reading to 5 minutes of arc on the mechanical engineer's design. Graduations are in half degrees on the civil engineer's design and the vernier reads to 1 minute of arc. Three sizes are 24, 30 and 36 in. in both designs. List prices are $92 to $101 for the mechanical engineer's unit, $114 to $124 for the civil engineer's design of the new machine.

▼ BRIEFITS—Identify by IEN-4722 if you write the maker —▼

SAWING . . Band saw machine takes rectangular stock to 6 by 12 in.

Source: FAMCO MACHINE CO.
Holborn & 15th Sts., Racine, Wis.

Model 612 is a new motor-driven, hydraulically controlled machine with four speeds at 50 to 300 fpm. Its blade is carried on wheels in a hinging frame with a hydraulic check to control or limit downward feed and hold when the blade cuts through the work. The frame hinges open to provide access for quick blade change. Coolant equipment can be added to specification.

▼ BRIEFITS—Identify by IEN-4723 if you write the maker —▼

TUBES . . Decimal equivalent chart for inches and fractions to decimal feet

Bellows & Wilson Tube Co.
521 E. Liberty St., Box 1021, New York 6, N. Y.

New edition of its Technical Data Card 110A is offered by the company on request. This is a letter-size sheet that tabulates inches and fractions of an inch with corresponding decimal parts of a foot carried to four places. It lists the company's tubular products.

Of Models of Tubes And All Other Products See Listed In THOMAS REGISTER . . *Descriptions . . Ratings . . See Page 50*

▼ BRIEFITS—Identify by IEN-4724 if you write the maker —▼

the more you Aetna-*ize*... *the more you* ECONOMIZE!

There's no nonsense in having your correct power transmission. Precision bearings and LESS friction mean no other mechanism can cut costs at the machine, run noise or wear out quicker. MORE to machinery efficiency, life span and value.

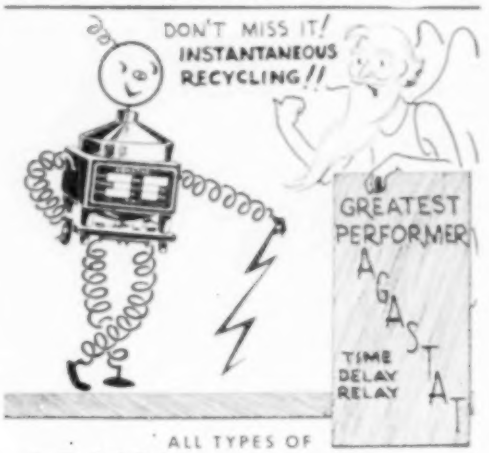
But don't take a chance on inferior bearings. They may cost more than you realize, even in your product's reputation. "Aetna" is an always specify. Aetna high precision, anti-friction products. Their engineered usefulness and quality assure TRUE economy, before first costs.

AETNA BALL AND ROLLER BEARING COMPANY
4600 SCHUBERT AVENUE • CHICAGO 39, ILLINOIS
Representatives and Distributors in Principal Cities

Aetna

Standard and Special Ball Thrust Bearings • Special Roller Bearings • Angular Contact Ball Bearings • Ball Retainers • Hardened and Ground Washers • Sleeves • Bushings

▼ BRIEFITS—Identify by IEN-4725 if you write the maker —▼



ALL TYPES OF
AGASTAT TIME DELAY RELAYS

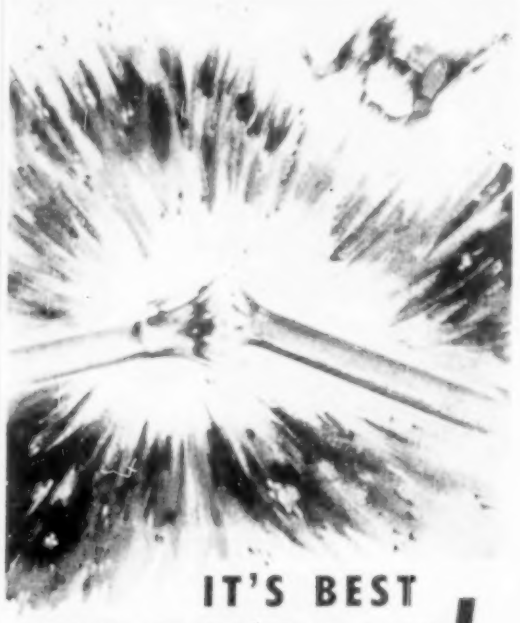
recycle instantly! In the type 1 the delay starts when the control circuit is closed; in the type 2 it starts when the control circuit is open.

Information and literature on request.

AGA AGA AGA AGA

AMERICAN GAS ACCUMULATOR COMPANY
1027 NEWARK AVENUE • ELIZABETH 3, N. J.

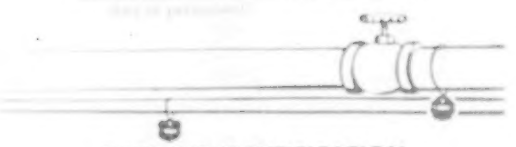
▼ BRIEFITS—Identify by IEN-4726 if you write the maker —▼



IT'S BEST TO BE SAFE!

Don't let serious injury get started from the opening of an unidentified valve or machine in your plant, when proper precautions aren't taken.

Maximum safe-sized SAFETY TAGS in rigid aluminum-covered pasteboard, and in many styles to confirm, maintain the integrity of safety systems. SAFETY TAGS are positive-lock tags, formed to encircle valve, switch or machine control handle. Only an authorized person can remove them.



POSITIVE IDENTIFICATION

FOR SAFETY'S SAKE USE
COLORS — SHAPES — INSCRIPTIONS

Write Matthews today for complete information, samples & price and ordering SAFETY TAGS.

JAS. H. MATTHEWS & CO.
3948 FORBES ST., PITTSBURGH 13, PA.
NEW YORK BOSTON PHILADELPHIA CHICAGO
NEWARK SYRACUSE CLEVELAND CINCINNATI
DALLAS BIRMINGHAM LOS ANGELES

▼ BRIEFLY—Identify by IEN-4728 if you write the maker ▼

NEED MORE SPACE?

LULL

Traveloader

EXPANDS THE SPACE YOU HAVE!

● Where ground or floor space is at a premium, the TRAVELOADER makes more useful every square foot. Because of its extensive stair loading feature, it needs no room for backing and turning as front loading semi-lifts. Operates in aisles little wider than crates it loads—moves 60% more large material in a given area than front-loading equipment. Handles freight from 6 in. to 6 ft. Distributor leads equally on 2 rates, 4 wheels. Tells about 3 complete new models of versatile low pickup, carry and deliver. If you have loaders to be picked up, loaded, moved, stacked, investigate the TRAVELOADER. Write for literature, specifications, prices.

LULL MANUFACTURING CO.
7814 E. 44th Street, Minneapolis, Minn.

▼ BRIEFLY—Identify by IEN-4729 if you write the maker ▼

ACE gives you Ace-High Quality in PLASTIC BALLS

COMPLETELY SEAMLESS
PRECISION FABRICATED

- All sizes 1/8" to 14"
- All plastic materials
- A wide variety of colors

Write today for Color Bulletins and Samples

Complete facilities for fabricating plastic parts for all industries. Estimates submitted promptly upon receipt of your blueprints or specifications.

ACE PLASTIC COMPANY
Precision Plastic Fabricators
91-24 Van Wyck Blvd., Jamaica 1, N. Y.

▼ BRIEFLY—Identify by IEN-4730 if you write the maker ▼

Two types, 3 basic sizes. Capacities from 400 CFM to 25,500 CFM.

nyb

COMET EXHAUSTAIR

Propeller type ventilating fans deliver large volumes of air at low resistance and low power consumption. All wheels are statically balanced for smooth, vibrationless operation. They are laboratory tested, accurately rated and fully guaranteed to meet specifications with Standard Codes.

Write for Bulletin 494

THE NEW YORK BLOWER COMPANY

▼ BRIEFLY—Identify by IEN-4731 if you write the maker ▼

WELDING . . Portable spot machine weighs 31 lb., rates 3/16 in. in steel

Source: MILLER ELECTRIC MFG. CO.
1163 W. Wisconsin Ave., Appleton, Wis.

Model LMSW-32 is new design of the welding machine previously described (EN-12/15/49). It is equipped with a toggle lever for the jaw clamping action. The lever can be held or adjusted to lock in over-center position.

The assembly is available with a timer, the latter to mount on a wall. Interchangeable tongs of various shapes and lengths have throat capacity from 6 to 18 inches. Operation is on 220-volt 60-cycle ac only. List price without tongs is $158. The timer, if so desired, adds $125.

▼ BRIEFLY—Identify by IEN-4732 if you write the maker ▼

GAGE . . Flexible steel rule 6 ft. in length winds in steel case

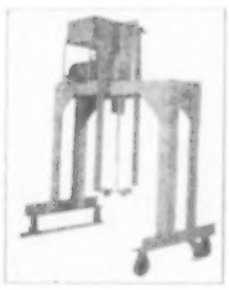
Source: STANLEY ELECTRIC TOOL DIV.
478-82 Myrtle St., New Britain, Conn.

List price is 42 cents for this item. Its use, and its many uses and its easy operation should be clear from the illustration. Extra blades are available for marking, scribing, etc. Blade is flexible and can be used by pulling the case open and extending the blade as required. Graduated for 1/64 in. up to 1 in., 1/32 in. up to 2 in., 1/16 in. up to 4 in., 1/8 in. up to 6 in. Graduations are in duplicate and mirror reversed.

▼ BRIEFLY—Identify by IEN-4733 if you write the maker ▼

MIXING . . Wheel mounted agitator rides track to straddle line of tanks

Source: MIXING EQUIPMENT CO.
1021 Garson Ave., Rochester 9, N. Y.



Structural frame in this new assembly of one of the company's lightning agitators is mounted on wheels and provided with a floor lock to roll the motor-driven agitator into place over any tank and hold it steady. A power cylinder on the frame raises and lowers the impeller shaft. An agitator rating to 4½ hp. can be employed. The company is prepared to recommend size for a given application.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BRIEFLY—Identify by IEN-4734 if you write the maker ▼

Vapor-Clarkson STEAM CLEANERS

Sixty gallons of vaporized cleaning solution per hour at pressure up to 400 lbs.

Flexibility of hot solution to operate two steam guns at the same time, with ample reserve power for all cleaning jobs. No idle time lost in waiting. The Model 4942 Vapor Steam Cleaner generates 100 lbs. of steam pressure in one minute from a cold start. Scientifically engineered, Model 4942 is not low in initial cost, but does the work 3 to 4 times faster.

VAPOR HEATING CORPORATION
80 East Jackson Blvd., Chicago 4, Illinois

▼ BRIEFLY—Identify by IEN-4735 if you write the maker ▼

NEW FEATURES—*NEW* ADVANTAGES
BALDWIN TYPE "L" INDICATOR

FOR EXPERIMENTAL STRESS ANALYSIS IN PRODUCT DESIGN • RESEARCH • TESTING

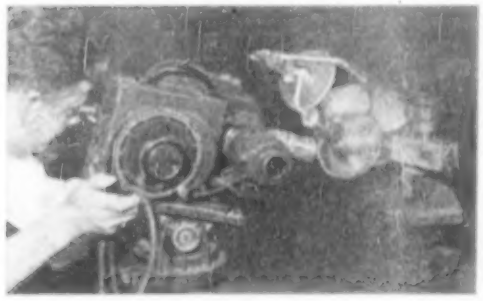
- INCREASED CONVENIENCE
- GREATER BALANCING RANGE
- ADDED ADAPTABILITY
- INCREASED VERSATILITY

TESTING HEADQUARTERS **BALDWIN**

▼ BRIEFLY—Identify by IEN-4736 if you write the maker ▼

Kodak

So you can see what's going on



You can slow down even the fastest motion—slow it down and study its every detail.

On 16mm. movie film, the Kodak High Speed Camera takes up to 8000 pictures in one second—beautifully sharp pictures packed full with revealing details. Projected at normal rate, they can show the action at nearly 1/200th the original speed. At this ultra-slow pace, all the factors of stress and motion present in high speed action become readily apparent. You can see exactly what happens in fast-moving equipment, see it enlarged, see it over and over again—slowed down to a speed suited to the human eye.

Here is a valuable tool in solving problems of design, production, and product performance. A single, self-contained unit, it's easy to use.

A booklet, "Magnifying Time," will be sent at your request. It gives complete high speed photographic data, as well as full details of the

Kodak *High Speed Camera*

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

▼ IEN - 4738 ▼

Best Buy
FOR BIG USERS
. . . the
BIG 10-ROLL CAN of
GOLD SEAL TAPE
Packed for your convenience . . . 10 rolls of cellophane wrapped Gold Seal Tape in a handy 5 pound container. It's the best buy for regular users. Every roll is double protected for factory fresh use.
Whatever way you buy tape, you'll find Gold Seal always out right in "tack"—clean handling, non-resilient, non-peeling. Try it.
Jenkins Bros. (Rubber Div.), 80 White St., New York 13.
Jenkins Bros. are makers of diamond and Hexagon Packings and Rubber Tapes which meet ASTM and Federal Specifications.
Gold Seal Tape
JENKINS FRICTION . . . RUBBER
MADE BY JENKINS BROS MAKERS OF FAMOUS JENKINS VALVES

▼ IEN - 4739 ▼

*KEMP . . .

Immersion Pots Melt Metal under Ideal Conditions — Control Degree, Rate and Distribution of Heat, Limit Dross Formation

NO MATTER WHAT soft metals you heat, lead, tin, pewter, tin or salt for coating, annealing, tempering or a special application, your plant needs Kemp Immersion Heating! Take heat recovery as an index. A full 12 pot Kemp pot, out of service for several hours, is brought to 1000° F. in less than five hours!

PAYS FOR ITSELF

Does your melting equipment waste enough fuel to pay for itself when you replace with Kemp units? No brickwork to steal heat . . . no external combustion chamber . . . no carbon deposits . . . no excess air losses. You get high melting rate, uniform close thermostatic speed of temperature recovery after charging cold material. [illegible] temperature precision of ±5° to 10°F.

FOOLPROOF OPERATION

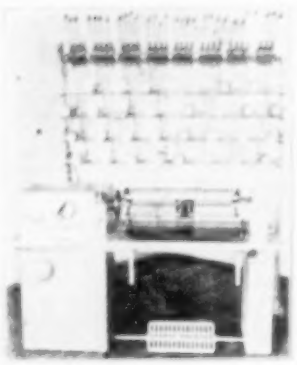
The Kemp Direct Contact pot of cast iron or steel, with simple combustion, reduces fuel waste, makes over melting impossible, protects pot life. Fuel and flame can not reach metal.

KEMP *Immersion Melting Pots*
OF BALTIMORE

▼ IEN - 4741 ▼

WINDING . . Electric coil machine for paper insulated coils in multiple

Source: UNIVERSAL WINDING CO., P. O. Box 1605-A, Providence, R. I.



No. 185 has been added to the company's line of coil winding machines to provide a unit that can be set up quickly and changed easily for short runs. It winds the coils in multiple or stick form on an arbor having an effective length of 20 inches. It will take a maximum of 20 coils at a time, pooling from the supply wire supplies on the frame at the rear. Maximum coil diameter is 6 inches. Wire size ranges from No. 20 to No. 44 AWG. Insulation is inserted by hand at the point of traverse reversal as indicated by traverse directional lights.

Traverse is by underarm for positive set of the wire and to permit easy attachment procedures without disturbing the traverse setting. Underarm gearing is designed as a cam-type rack motion independent of the traverse length. Reversal is by a double throw spring-loaded clutch. The spindle is driven by a ½ hp constant speed ac motor and a variable-speed sheave-type transmission to a multiple-disc friction clutch on the spindle. Speed range is 400 to 2,200 rpm. A counting counter can be preset for stop at the correct number of turns for a given coil.

▼ IEN - 4742 ▼

STORING . . Steel cabinet for cards, correspondence, supplies

Source: COLE STEEL EQUIPMENT CO., 285 Madison Ave., 1st Floor, New York 17, N. Y.

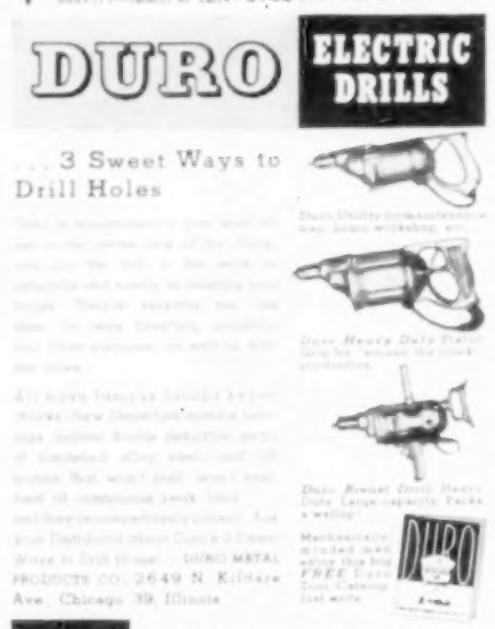
Various combinations of ball-bearing drawers and door-closed shelves are available in a new steel cabinet the company has added to its line of steel storage equipment. No. 429 is shown in the illustration. It and other company assemblies measure 30 to 42½ in. wide, 37½ in. high and 18 in. deep. Finish can be specified in green or gray. List price is about $40. A unit 31 to 42½ in. wide, 52½ inches high and 18 in. deep, with [illegible] shelves, lists at about $60.

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

▼ IEN - 4743 ▼

F. J. Littell MACHINE CO.
4133 RAVENSWOOD AVENUE, CHICAGO 13, ILL.

▼ IEN - 4744 ▼



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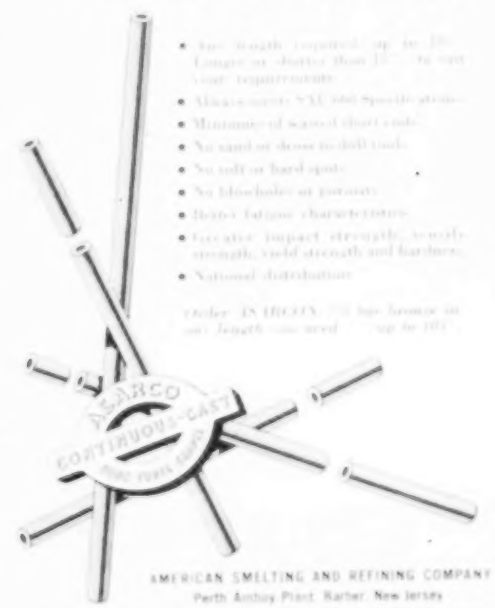
Asarcon 773 BEARING BRONZE

. . . IN ANY LENGTH YOU NEED



- Any length required, up to 10 ft. Longer or shorter than 10 ft. to suit your requirements.
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Cover the Field: Magnetic Contactors, Remote Control, Reset, Interval and Process Timers, gear-less, clutchless Impulse Timers, Program Clocks; make special equipment for your special needs.

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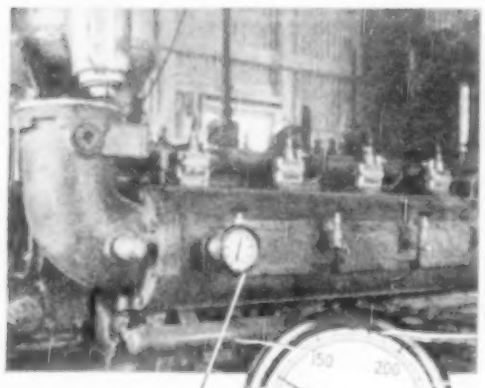

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CONTACT MAKING models for alarm or control purposes. MAX MIN models to indicate highest or lowest temperature reached.

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NEWS NOTES

▼ Inquiry to IEN - 4750 ▼

BRAZING Application example of silver brazing alloy to build hard facing

▼ Inquiry to IEN - 4751 ▼

CASTINGS How cerium is used to produce nodular cast iron described in booklet

▼ Inquiry to IEN - 4752 ▼

CLEANING Recommended procedures for cleaning metal described in new booklet

▼ Inquiry to IEN - 4753 ▼

▼ Inquiry to IEN - 4754 ▼

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THE BRUSH WITH THE STEEL BACK
MD
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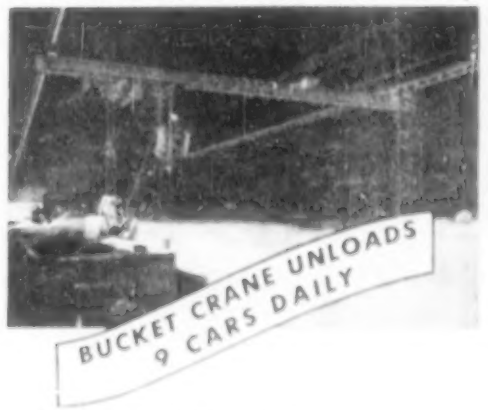

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DOLCOVAR

Seals hardwood, cement, magnesite, cork and improves the natural grains and tints. Beautifies linoleums and preserves and maintains flooring.

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Special product for maple, use under the seals and protects them against gym boots' non-resistance to all kinds.

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All-purpose cleaner that cuts GREASE, stains, inks and other white brightening and floats nothing throughout your establishment.

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NEWS NOTES—Continued

"Progress on magnetic-fluid clutch"

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CONTACTS . . . Engineering information on electrical contact design, materials, assembly.

Assembly methods are described in detail by a special section in each 48-page catalog. Electrical Contacts" [illegible] drawings show riveting, upsetting, spot welding, projection welding and brazing methods. Discussion of the [illegible] includes useful data on contact design, materials and alloys, protective finishes [illegible] and many

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CONTROLS . . . Line drawings in bulletin show methods of telemetering process variables

Bulletin M-1500, 32 pages, shows how the company's Motorvane equipment for transmitting or applied to pressure, [illegible] control process variables or motion points. Schematic line drawings illustrate typical settings for automatic liquid level, temperature, flow, motion, electrical [illegible] power, [illegible] temperature and pressure recorders are described in the text with typical chart records.

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CUTTING . . . Technical information in new 92-page catalog on carbide tools and parts

How to select the grade of carbide for a particular [illegible] application is explained in detail. Also discussed are [illegible] tool cutting speeds, feeds and depths of cut, [illegible] and setting of tools, [illegible] and [illegible] are given for the various types of [illegible] operations. Tool [illegible] and a surface speed finder and [illegible] chart [illegible] are [illegible] on tipped tools, brazing, soldering, [illegible] grinding [illegible] on tipped tools, brazing, soldering, [illegible] grinding [illegible] on tipped tools, brazing, soldering, [illegible] grinding

▼ ... IEN-4768 ... ▼

ANOTHER TIME-SAVING COST-CUTTING ALL-STEEL MATERIALS HANDLING BOX DESIGNED AND BUILT BY POWELL

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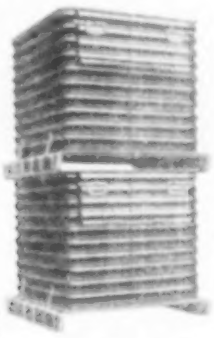

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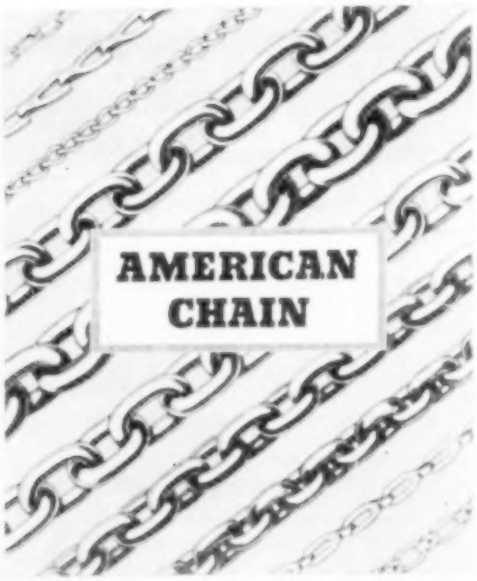
Powell designs and builds all kinds of materials handling containers from any metal. If you are not certain you are handling your products economically—call in Powell engineers or send for one of our materials handling catalogs.

Bulletin 500 indicates Powell versatility in creating special equipment. Write for it.

▼ ... IEN-4769 ... ▼

the most important Question about Chain: WHO MAKES IT?...



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Whether you buy chain for your own use or as part of your product, you want to know that it is good, strong, dependable, high quality chain. And the best way to be sure of that is to know who made it.

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NEWS NOTES—Continued

"Booklet on how to explain free enterprise"

▼ ... IEN-4771 ... ▼

DRIVES ... Useful information on shafts to determine stresses, torques, bending moments

▼ ... IEN-4772 ... ▼

EXTINGUISHING ... Hazardous materials listed in booklet with their extinguishing agents

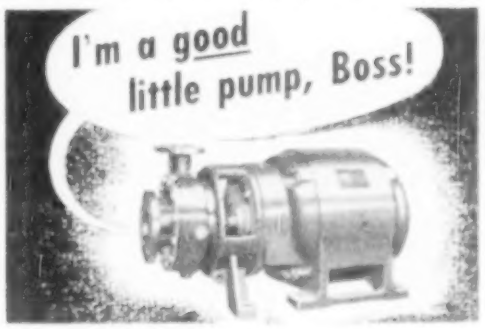
▼ ... IEN-4773 ... ▼

LUBRICATING ... Booklet recommends grades of lubricant by type of industry and type of service

▼ ... IEN-4774 ... ▼

MANAGEMENT ... Gives people the facts ... urges booklet on how to explain free enterprise

▼ ... IEN-4775 ... ▼



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The Simplex Air Valve is easily installed ... positive in action ... simple in capacity. Standard valves for pressures up to 250 p.s.i. special valves for pressures up to 800 p.s.i. Thousands have been in successful use for over 30 years.

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man-saver

Handles your heavy loads from level to level *Safely • Easily*

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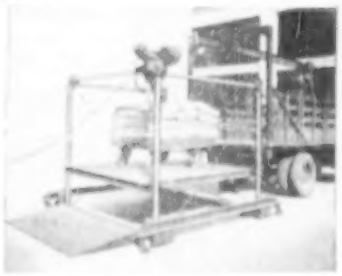

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Pillow Blocks

Two-piece split design housing. Highgrade cross-hardened cast iron, or all-steel fabrication, feet or flange mountings, adaptable for oil or water cooling, supplied with either lubricant or protective type labyrinth seals. Bearings with closed ends when required.

Two types — full range of sizes. Adapter type mountings for shaft diameters from 1/2" to 2" straight bore; mounting for shaft sizes from 1" to 3" tapered bore.

Torrington Self-Aligning Spherical Roller Bearings

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FAFNIR BALL AND ROLLER BEARING
PILLOW BLOCKS

▼ IEN-4780 ▼

PNEUMATIC—Semi-Pneumatic—SOLID

• Switching types of tires may alone bring substantial wheel savings. Gleason Wheels are made for maximum tire economy, use pneumatic tires with tubes, semi-pneumatic tires or solid rubber one-piece molded tires. Further savings possible on semi-pneumatic tires by varying tire wall thickness to meet service needs. Write for recommendations and quotations today.

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GLEASON WHEELS FOR *Price Competitive* PRODUCTS

▼ IEN-4781 ▼

FAST SERVICE on SPECIAL HOISTS

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NEWS NOTES—Continued

Educational program on economic facts

▼ IEN-4782 ▼

MANAGEMENT Four check lists of available publications on management problems

▼ IEN-4783 ▼

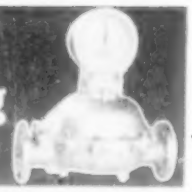
MANAGEMENT Give people the facts urges booklet, to sell the American way of life

▼ IEN-4784 ▼

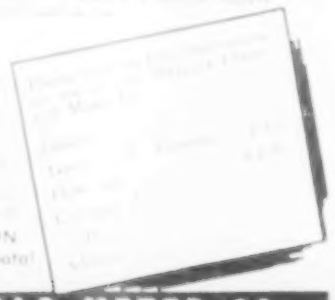
MANAGEMENT Sound slide films to sell American way of life by economic education

▼ IEN-4785 ▼

Got a Corrosive Liquid Metering Problem?



Let NIAGARA CHEMICAL METERS Solve it for you!



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BEAUTIFUL! Printed in any color combination desired for any design. Better labels for every purpose . . . to suit or identify all the contingencies.

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Gives all these plant savings:

1. Extends TIME between greasings—lasts longer stays in bearings longer.
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3. Simple inventory—Shell Alvania Grease replaces up to 20 brands formerly required.
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1. Higher mechanical stability—does not "soften" longer grease at operating temperatures.
2. Pumpable at low temperatures—even in the coldest plants.
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The "MILLION-STROKE" Industrial Grease! A grease that has proved outstanding performance in NAVY, ARMY & AIR Tests. Protects ball and roller bearings in severest applications.

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NEWS NOTES—Continued

"Paint spraying by superheated steam"

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MANUFACTURING — Scope of enterprise by Kaiser Industries shown in new picture book

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NEW PRODUCTS — List of manufacturers looking for new products published in book

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NICKEL ALLOYS — Detail technical data on four Hastelloy materials in new 40-page booklet

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PAINTING — New spray method employs steam instead of compressed air

▼ Circle 4796 on coupon for more data ▼

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FRICK & CO.

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PUT 'EM TO WORK!

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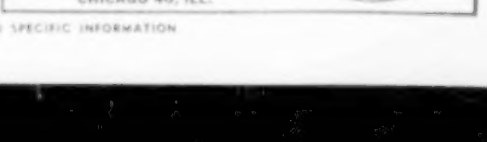
CASTERS AND TRUCKS



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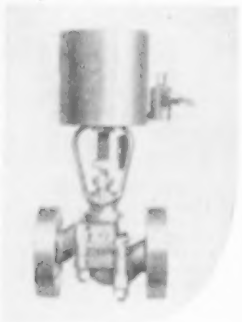
FOR ALL APPLICATIONS



SERIES 1520

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NEWS NOTES—Continued

"Electronic umpire calls strikes and balls"

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PAPER — Instruction course this summer on paper manufacture and uses

▼ BRIEFLY—Ideals by IEN-4804 ▼

SAFETY — On the highway, booklet uses cartoon pictures to stress its points

▼ BRIEFLY—Ideals by IEN-4805 ▼

SHEARING — Application drawings show scope of work performed on stamping trimmer

▼ BRIEFLY—Ideals by IEN-4806 ▼

SIGNALING — New electronic umpire calls strikes and balls for baseball training use

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 50

▼ BRIEFLY—Ideals by IEN-4808 ▼

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Put a Robinson "sulkey" type cooling fan right on the job. Roll it into position on its truck type wheels, tilt it to direct the air right where you want it.

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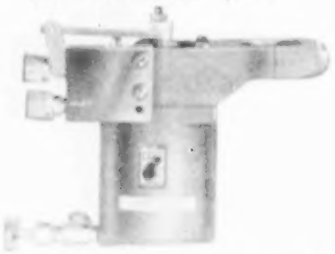

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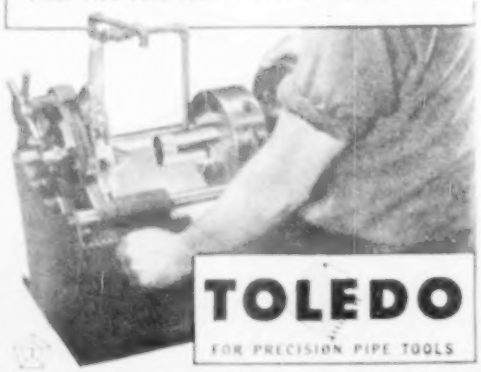
▼ BRIEFLY—Ideals by IEN-4807 ▼

Thread 2" pipe in 22 seconds with **TOLEDO** POWER PIPE MACHINES!

Save up to 90% on pipe threading time—use a portable TOLEDO No. 600 Power Pipe Machine instead of hand methods! This saves labor — reduces costs. The Super Model threads 2" pipe in 22 seconds — cuts off 2" pipe in 10 seconds. Combines speed, production, strength, compactness, portability, dependability and low cost. Available with dies for stamping decals and prints. Write for new catalog. The Toledo Pipe-Threading Machine Co., Toledo, Ohio. New York Office: 342 Broadway, Room 1110.

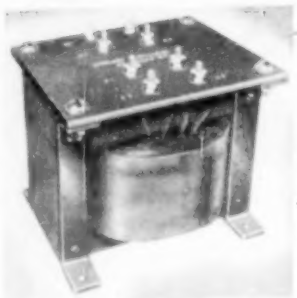


TOLEDO

FOR PRECISION PIPE TOOLS

▼ BRIEFLY—Ideals by IEN-4810 ▼

HIGHLAND ENGINEERING



TRANSFORMERS *and* CHOKES

For all Industrial and Electronic Applications. Open or cased. Capacities 5VA-50 KVA. Specializing in quality, service and delivery on Transformers and Inductors to suit your particular requirements. Special units built from standard parts at competitive prices and delivered.

Send us data on your specifications — requirements which will have our prompt attention.

W. R. GRITTA

HIGHLAND ENGINEERING CO.

HICKSVILLE, LONG ISLAND, N. Y.
Telephone Hicksville 3-2727

▼ ——(Identify by IEN-4811 if you write the maker.) ▼

The Truck That Goes MORE Places!

SHORTER OVERALL LENGTH

SMALLER TURNING RADIUS

MOTO-PALLET TRUCK

MOTO-TRUC MOTORIZED BATTERY OPERATED Walkie PALLET TRUCK

WRITE FOR LITERATURE

PALLET TRUCKS, HI-LIFT TRUCKS, PLATFORM TRUCKS

The MOTO-TRUC Co. 1915 E. 59th Street CLEVELAND 3, OHIO.

ORIGINATORS OF MOTORIZED HAND TRUCKS

▼ ——(Identify by IEN-4812 if you write the maker.) ▼

Want blacker, longer-lasting prints?

DIRECTO

Try this new, improved, better paper and you'll agree you've never seen such clean-cut direct positive prints

Better new chemicals and better new papers have been combined to give you direct positive prints with blacks that are really black on whiter-than-ever backgrounds. Prints made on DIRECTO paper have lines that are clean, sharp, permanent, fade-proof. DIRECTO prints uniformly resist tearing, wearing.

Depend on DIRECTO, too, for uniformly black lines, for DIRECTO developing solution is chemically stable, always brings out strong black images, whether mixed fresh or old. Blue, pink, yellow and green background colors, in addition to white are now available, in rolls or cut sheets. EUGENE DIETZGEN Co. • Chicago • New York • San Francisco • New Orleans • Los Angeles • Pittsburgh • Washington • Philadelphia • Milwaukee • Dealers in All Principal Cities

FREE SAMPLES

DIETZGEN

DRAFTING, SURVEYING & PRINT-MAKING MATERIALS, INSTRUMENTS & EQUIPMENT

NEWS NOTES — Concluded

"New basic publications on wood working"

▼ ——(Identify by IEN-4814 if you write the maker.) ▼

TECHNICAL WRITING . . . Instruction book on handling manuscript, illustrations and proofs

John Wiley & Sons, Inc.
440 Fourth Ave., New York 16, N. Y.

"Author's Guide" . . . 32 pp.

▼ ——(Identify by IEN-4815 if you write the maker.) ▼

TUBES . . . New series of data sheets issued at intervals on stainless steel tubes

Superior Tube Co.
2 Germantown Ave.
Norristown, Penna.

"Quick Facts" . . . 4 pp.

▼ ——(Identify by IEN-4816 if you write the maker.) ▼

WEIGHING . . . History of scales and pictures to describe their development

Available . . .

▼ ——(Identify by IEN-4817 if you write the maker.) ▼

WELDING . . . Instruction book on arc welding procedure and practice

Lincoln Electric Co.
Cleveland, Ohio

"Electric Arc Welding" . . . 288 pp., illus., $2.00

▼ ——(Identify by IEN-4818 if you write the maker.) ▼

WOOD WORKING . . . New house publication describes application of Delta power tools

Delta Power Tool Div.
Rockwell Mfg. Co.
600 E. Vienna Ave., Milwaukee 1, Wis.

"Power Tool Journal" . . . 8 pp., illus., free

All Makers of Electric And All Other Products Are Listed In THOMAS' REGISTER Descriptions Ratings — See Page 56

▼ ——(Identify by IEN-4820 if you write the maker.) ▼

Meat pans washed and sterilized on Stainless belt

CYCLONE METAL CONVEYOR BELTS

UNITED STATES STEEL

▼ ——(Identify by IEN-4821 if you write the maker.) ▼

New BLIND BOLTS

for heavy duty blind fastening

write today for new bulletin

CHERRY RIVET COMPANY

231 Winston St., Los Angeles 13, Calif.
Address Department E-112

▼ ——(Identify by IEN-4819 if you write the maker.) ▼

Never Before A Portable Vacuum Cleaner with ALL These Advantages!

The NEW Hoffco-Vac #30

★ More Dust-Capacity — 4.4 Cu. Ft.
★ 3 h.p. for 1 Sweeper
★ Finer Dust Separation — 30 Sq. Ft. Bag Area
★ Self-Lubricated Bearings
★ Operates 50-ft., 1½" vacuum hose
★ Built for Continuous Service
★ Carries Its Own Tools and Hose

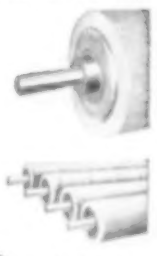
WRITE NOW for Bulletin A-752

AIRPLANE Cleaning

U.S. HOFFMAN MACHINERY CORPORATION
103 Fourth Ave., New York 3, N. Y.
Canadian Plant: Canadian Hoffman, Newmarket, Ont.

▼ ——(Identify by IEN-4822 if you write the maker.) ▼

MANY INDUSTRIAL ROLL PROBLEMS are solved by using



SHAF-TITE ROLLS

SEND FOR NEW CATALOG NO. 48

Most complete publication of its kind

Industrial Roll Division
RODNEY HUNT MACHINE CO.

FREEFITT—Identify by IEN-4823 if you write the maker

The
"TOTEMASTER"
990.-
POWERED BY A 20 H.P., 4 CYLINDER GAS ENGINE
Indoors or out — this rugged ONE-TON Toter scoots around with loads up to capacity and at speeds up to 20 M.P.H.
21 Sq. Ft. of Loading Space. Draw Bar Pull: 1200 lbs.
WRITE for "TOTEMASTER" Bulletin 130
LEWIS-SHEPARD
PRODUCTS INC.
142 WALNUT STREET, WATERTOWN 72, MASS.

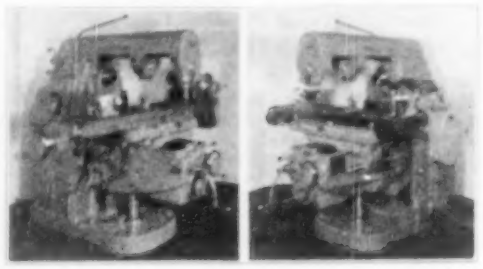
FREEFITT—Identify by IEN-4824 if you write the maker

FREEFITT—Identify by IEN-4825 if you write the maker

FREEFITT—Identify by IEN-4826 if you write the maker

MILLING . . Universal machine, also in plain design, 62½ in. table

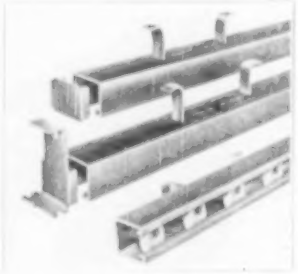
Source: CINCINNATI MILLING MACHINE CO.
Marburg and Kline Sts., Cincinnati 9, Ohio



FREEFITT—Identify by IEN-4827 if you write the maker

FASTENING . . Steel insert channel embeds in concrete for anchoring use

Source: UNISTRUT PRODUCTS CO.
1011-15 W. Washington Blvd., Chicago 7, Ill.



FREEFITT—Identify by IEN-4828 if you write the maker

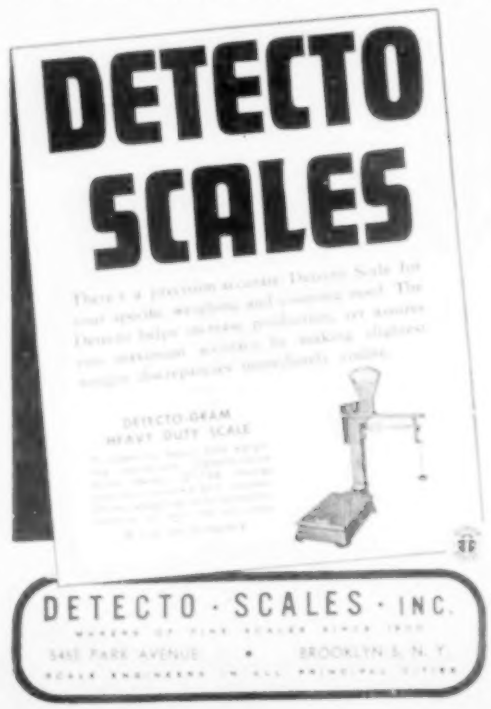
FREEFITT—Identify by IEN-4829 if you write the maker

MAGNATROL SOLENOID VALVES for AUTOMATIC DEPENDABLE FLOW CONTROL
FREE CATALOG! Write today, attention J. W. Bookman for complete literature covering specifications, size and dimensions.
MAGNATROL VALVE CORP.
HAWTHORNE 5, NEW JERSEY

FREEFITT—Identify by IEN-4830 if you write the maker

SHAFT PACKING NO CHEMICAL CAN ATTACK
TEFLON "CHEMICAL" (GR) PACKING LASTS IN SERVICE MONTHS WHERE OTHER PACKINGS FAILED IN HOURS.
CONVENTIONAL GLAND WITH SHAFT PACKING
CHEMICAL GLAND WITH SHAFT PACKING
Teflon Products Division
UNITED STATES GASKET COMPANY
658 No. 10th Street, Camden, New Jersey

FREEFITT—Identify by IEN-4831 if you write the maker


DETECTO SCALES
DETECTO-BEAM HEAVY DUTY SCALE
DETECTO · SCALES · INC.
MAKERS OF FINE SCALES SINCE 1930
5401 PARK AVENUE • BROOKLYN 5, N. Y.
SCALES AND HEADS IN ALL PRINCIPAL CITIES

▼ ——— Identify by IEN-4832 ▼

Blind-fastening, Plastic Spring-Locks improve bracket appearance, cut costs

SIMMONS FASTENERS

SPRING LOCK • QUICK LOCK • ROTO LOCK

▼ ——— Identify by IEN-4833 ▼

"Beware of little expenses!
A small leak will sink a great ship."

One penny dropped markets not much noise but thousands of pennies dropped over the year markets a big bang before yr annual stockholders' meeting —Acme Steel's Scrapbook, 1950

Here, too, Marche Line Kitchens find that much else can work toward more pleasing, more complete packages unique to handling and retail within your plants.

But to those ideas of yours which you can't afford to pass up for savings you may be able to make in this part of your business . . . Here at Acme Steel Company, we have eleven acres (more than 500,000 square feet) of floor space devoted to nothing but developing customers how to cut costs, save time, labor and materials with Acme Bar steel strapping. Acme seal-tite steel seals, and other Acme Steel products. In 9 out of 10 cases, Acme sales engineers are able to start you on the road to thrifty benefits.

Some specific examples of what we can do are given at home. It takes only a minute to mail them—and not much longer to put us on your telephone and call the Acme Steel service office nearest you. There are 30 of these offices in the principal cities of the U. S. and Canada. Or mail the coupon today for more information and helpful cost-cutting ideas to meet your particular need.

Saves 33⅓ in packaging materials and time
Saves 25% in damage materials
Saves 50% in loading time and labor
Saves 90% in breakage and damage claims

ACME STEEL

ATTACH THIS COUPON TO YOUR BUSINESS LETTERHEAD

Packaging, Shipping, Materials Handling
Shipping, Cartons and C.O.D.
Bar and Bar Assembly
Product Assembly

Position
Company
Street
City

▼ ——— Identify by IEN-4835 ▼

GAGE . . Telemetering pickup for pressure signals to 400 pounds

Source: BENDIX AVIATION CORP
11602 Sherman Way, North Hollywood, Calif.

New subminiature

The pickup

Unbalance

▼ ——— Identify by IEN-4836 ▼

PLASTIC . . Phenolic material cures quickly in mold, gloss finish

Source: DUREZ PLASTICS & CHEMICALS INC
6 Walck Road, North Tonawanda, N. Y.

Durez 1300 Black

Suited for electronic potting

▼ ——— Identify by IEN-4837 ▼

ROCK DRILLING . . Carbide tipped for portable tool rotation in masonry

Source: KENNAMETAL INC
100 Lloyd Ave., Latrobe, Pa.

Twelve sizes

All Makers of Items And All Service Products Are Listed In THOMAS' REGISTER Descriptions Ratings See Page 10

▼ ——— Identify by IEN-4838 ▼

FREE

MYSTIK Self-Stik
ADHESIVE PRODUCTS

▼ ——— Identify by IEN-4839 ▼

PRATT & WHITNEY
Diaform
Send for this description of the New Improved Precision Method to FORM-DRESS GRINDING WHEELS with
Diaform
WHEEL FORMING ATTACHMENT
PRATT & WHITNEY
Diaform
LIGHT WEIGHT • PORTABLE • PRECISE
GIVES POSITIVE, ACCURATE REPEAT DRESSINGS

▼ ——— Identify by IEN-4840 ▼

the move is to MASONRY Paint

BASED ON Vinylite® RESINS BAKELITE DIVISION

Now masonry walls paint life a new high in protection thanks to Vinylite Brand Resins.

A two coat system based on these amazing materials shows exceptional resistance to weather, fresh and salt water, industrial fumes, oil, grease, cleaning solutions and most other chemicals. The plastic coating can be applied to brick, concrete, concrete brick, stone, concrete block, cinder block or asbestos siding.

It can be applied to damp basement walls or surfaces previously painted with other materials. It does not crack, peel or chalk when it has been properly applied. Use it on floors or walls. Used on homes, apartments or office buildings, that Vinylite Resin-based paint cuts upkeep costs.

It's particularly practical for use in dairy, canning, packing plants, laundries and refineries where it withstands the corrosive fumes that eat into ordinary paints. Used as a coating for swimming pools, floors or cellars, and where it has shown excellent resistance to fresh and salt water and disinfectants. In deep basements, the use of these coatings provides dry, clean and attractive walls.

For the name of a dealer in your area, write for free booklet, "How To Paint Masonry With Vinylite Resins." Address Bakelite Company, Dept. IEN-5, 30 East 42nd Street, New York 17, N. Y.

BAKELITE DIVISION
Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.

▼ REFER TO IEN-4842 ▼

Small AUTOMATIC Counters

Gear dependability, small space requirement, waterproof construction and low cost. The ideal combination in Mechanical and Electric Counters for built-in applications.

Speeds to 600 C.P.M. Non-reset, SMC Stroke Counters furnished with any required shaft extension and operating arm. MERCURY Electric Counters furnished for any required voltages, either AC or DC. Send application details for samples.

Production Instrument Company

Representatives in Principal Cities

▼ REFER TO IEN-4843 ▼

Here's why TRU-LAY PUSH-PULL is a valuable aid in machine design

TRU-LAY Push-Pull is precision-made. Therefore it . . .

is positive in action as a steel rod, yet flexible as wire rope

transmits action over long or short lengths, with few or many bends

will operate while flexing with practically no lost motion

is made in capacities up to 1000 pounds input

is designed for long life—a machine part—not a flimsy gadget

MAIL THE COUPON BELOW

ACCO

AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE

Please send me copy of descriptive bulletin DH-87.E-1

Name .....

Company Name .....

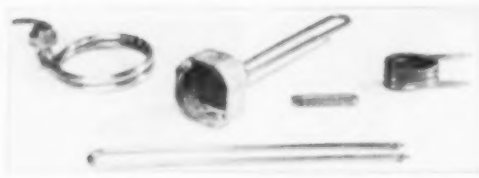
Address .....

City ..... Zone ..... State .....

▼ REFER TO IEN-4845 ▼

HEATING . . Electric element, length to 200 in., bends to any shape

Source: GLENN ELECTRIC HEATER CO.
239-43 Canal St., New York 13, N.Y.



Star Safety Heater designed and manufactured entirely inside of a tubular unit of resistance wire in a magnesium [illegible] copper tube. A spiral section separates magnesium [illegible] and holds it from contact on the tube while the remaining space is filled with Magnesium insulating [illegible] the tube in three compartments to complete the installation and the entire assembly. Finally, the tube is bent to necessary to required shape for a given application.

Diameter range [illegible]

▼ REFER TO IEN-4846 ▼

PLASTIC . . Molding material combines silicone and glass fibre

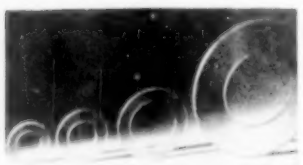
Source: GENERAL ELECTRIC CO.
101 Plastics Ave., Pittsfield, Mass.

For steady duty to 392 degrees F.

▼ REFER TO IEN-4847 ▼

GAGE . . Orifice plate made of Pyrex glass for pipe line

Source: PRECISION THERMOMETER & INSTRUMENT CO.
1422 Brandywine St., Philadelphia 30, Pa.



Diameters [illegible]

All Makers of These And All Other Products Are Listed In THOMAS REGISTER Descriptions Ratings See Page 10

▼ REFER TO IEN-4849 ▼

Accurately Made by EAGLE

Concentricity of head with shank. Clean finish on heads and threads—uniformity of centering and depth of slots. Qualities like these are the result of Eagle's precision manufacture. That's why you can always count on Eagle wood screws to give you the performance you want. Eagle wood screws come in standard sizes and heads. Also specials, when you need them.

Write for quotations.

THE EAGLE LOCK COMPANY
Terryville, Conn.

WOOD SCREWS
MACHINE SCREWS
STOVE BOLTS

▼ REFER TO IEN-4850 ▼

RUBBER SERVICEABLE AT 100° BELOW ZERO! 500° ABOVE ZERO!

SILICONE RUBBER, with its unusual characteristics, opens up vast new design possibilities. Arrowhead, in pioneering the fabrication of silicone over the past three years, has accumulated a store of experience and know-how which is available to you.

SLEEVES and DUCTS

Versatile AIRFLEX flexible silicone sleeving, sleeving and couplings are now available of impregnated or laminated silicone rubber.

MOLDED SILICONE

Silicone rubber O-rings, gaskets, packings and special molded mechanicals of all kinds are a part of daily production in Arrowhead's Silicone Department.

DIE CUT SILICONE

Silicone sheet and silicone coated fiberglass are ideal materials for diecut gaskets and other high temperature parts. ARCOSIL gaskets to standard service specs for rapid delivery.

EXTRUDED SILICONE

Arrowhead silicone tubing and extrusions are finding new uses where exceptional properties under unusual conditions are required.

ARROWHEAD RUBBER CO. DOWNEY, CALIFORNIA
DIVISION OF NATIONAL MOTOR BEARING CO., INC.
ENGINEERED RUBBER PRODUCTS Sales Engineers in Principal Cities

▼ REFER TO IEN-4843 ▼

Now It's A Breeze TO WATER WASH AN AUTOMATIC SPRAY with a DESPATCH Uniform Velocity SPRAY BOOTH

DESPATCH OVEN COMPANY

▼ REFER TO IEN-4852 ▼

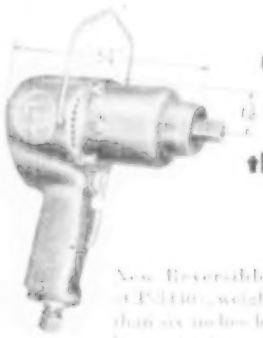
DON'T SHUT-DOWN MACHINES FOR FREQUENT GLOVE CHANGES!

USE **JOMAC**
LONGER-LASTING WORK GLOVES

FLEXIBLE
REVERSIBLE
(FIT EITHER HAND)
HEAT-RESISTANT
7 Times the Wear
in Every Pair

JOMAC WORK GLOVES
C. WALKER JONES CO.
6135 N. Lambert St. Philadelphia 38, Pa.

▼ REFER TO IEN-4853 ▼



more power per ounce than any other wrench

New Reversible Air Impact Wrench CP-5110, weighing but 4½ pounds but less than six inches long, does the job where longer tools cannot be applied. Power regulation controls eighteen sets of nuts. Built to withstand rough usage, has all steel clutch housing, heat-treated aluminum motor housing and handle. New type lubricating system simplifies clutch lubrication, uses oil instead of grease. Write for Bulletin SP-5011.

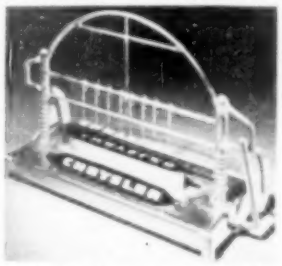
CHICAGO PNEUMATIC TOOL COMPANY
General Offices: 8 East 44th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

▼ REFER TO IEN-4854 ▼

CUT SPRAY PAINTING COSTS
SPEED UP PRODUCTION

ELECTRO-FORMED METAL MASKS



Made by Patented Process

SEND COUPON TODAY!

CONFORMING MATRIX CORPORATION
330 Toledo Factories Building, Toledo 2, Ohio

I am interested in metal masking shields. Please send without obligation ☐ further information ☐ quotation on masks for parts or plants which I am forwarding.

NAME
FIRM
STREET
CITY & STATE

▼ REFER TO IEN-4855 ▼

STEEL . . Ground flat stock
for both oil and water hardening

Source: BROWN & SHARPE MFG. CO.
235 Promenade St., Providence 1, R. I.

Sixteen thicknesses in this set of flat stock simplify handling of small jobs up to 4" wide. Each piece is ground flat, stock for hardening to size. Thicknesses are .010", .020", .030", .040", .050", .060", .070", .080", .090", .100", .110", .120", .130", .140", .150", .160". Pieces 1" wide are supplied in lengths of 6", 12" and 18". Pieces 2" wide are supplied in lengths of 6" and 12". Pieces 3" wide are supplied in lengths of 6" and 12". Pieces 4" wide are supplied in lengths of 6" and 12". Pieces

▼ REFER TO Identify by IEN-4862 IF YOU WRITE THE MAKER ▼

How Production-Wise Manufacturers

SAVE SANDING COSTS

GOES FARTHER

"IN ON GROUND FLOOR"

Abrasive Products, Inc.

▼ REFER TO Identify by IEN-4863 IF YOU WRITE THE MAKER ▼

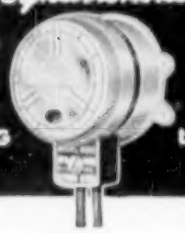
SYNCHRON

TRADE MARK

Synchronous

TIMING MOTORS

SELF STARTING



SELF LUBRICATING

This patented timing motor operates with equal efficiency in any position. It operates quietly — all moving parts are bathed in a sealed-in lifetime supply of oil, and double bearings on rotor, reduction, and output shafts assure long life and trouble-free service. Size 2-3/4 in. x 1-5/16 in., with power to pull 8 oz. at 1 RPM. Standard speeds, from 1 to 300 RPM, other speeds available. Write for complete engineering data.

HANSEN MANUFACTURING CO., INC.

Established 1907 - a Pioneer in Synchronous Motors

PRINCETON 2, INDIANA

▼ REFER TO Identify by IEN-4864 IF YOU WRITE THE MAKER ▼

FREE! FLOOR-CARE BOOKLET

MASURY-YOUNG COMPANY
16 ROLAND STREET, DEPT. C
BOSTON 29, MASSACHUSETTS

Please send me FREE FLOOR-CARE BOOKLET

NAME

STREET

CITY ZONE STATE

▼ REFER TO Identify by IEN-4865 IF YOU WRITE THE MAKER ▼

SEPARATING . . Magnetic unit cleans grinding and machining coolants

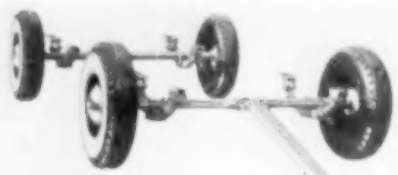
Source: BARNES DRILL CO.
856 Chestnut St., Rockford, Ill.

▼ REFER TO Identify by IEN-4866 IF YOU WRITE THE MAKER ▼

VALVE . . Solenoid operated for on-off service on liquids, gases

Source: CHARLES ENGELHARD INC.
848-52 Passaic Ave., East Newark, N. J.

▼ REFER TO Identify by IEN-4867 IF YOU WRITE THE MAKER ▼



FAYETTE
Precision Built
UNDERCARRIAGES

CUT ASSEMBLY COSTS OF PORTABLE EQUIPMENT

WRITE TODAY

FAYETTE MANUFACTURING CO.
320 Front St. - Fayette, Ohio

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER - Buyers' Guide - See Page 50

▼ REFER TO Identify by IEN-4868 IF YOU WRITE THE MAKER ▼

Hickman, Williams & Company

Announces

THE FIRST MAJOR IMPROVEMENT IN CHILLED IRON ABRASIVES IN 76 YEARS!

- Up to 25% longer abrasive life
- Up to 33% longer blast life
- Rapid cleaning action
- From 30-50% reduction in total abrasive and maintenance costs

GREATER DURABILITY AND LOWER REPAIR COSTS

Produced Exclusively By
NATIONAL METAL ABRASIVES COMPANY
Cleveland, Ohio
WESTERN METAL ABRASIVES COMPANY
Chicago Heights, Illinois

For full particulars call or write

Hickman, Williams & Co.
INCORPORATED
CHICAGO · DETROIT · CINCINNATI · ST. LOUIS · NEW YORK
CLEVELAND · PHILADELPHIA · PITTSBURGH · INDIANAPOLIS

▼ REFER TO Identify by IEN-4869 IF YOU WRITE THE MAKER ▼

Suzy the stock girl says...

"I'm 'toting' more goods faster with these containers!"

C-D DIAMOND FIBRE RECEPTACLES
CONTINENTAL-DIAMOND FIBRE CO., NEWARK 21, DEL.

▼ REFER TO Identify by IEN-4870 IF YOU WRITE THE MAKER ▼

Write for this new *Bulletin*

Get the facts on how you can save on

DRUM CLOSURES

TODAY

▼ ——— Identify by IEN-4871 if you write the maker —▼

HAVE COMPRESSED AIR
with the Plug-in Convenience of Electricity

You can have air wherever you want it, at a very low initial cost, with Schrader Quick Acting Couplers.

Rugged, reliable pneumatic couplers, made in two principal types, standard and Non-Skip. Both types consist of two parts, nipple and sleeve, one part screwed to valve or pipe fitting on pipe, or tubing, which is fitted to the hose.

Check valve, hose or female threaded. Adaptors, male or female threaded or threaded with a serrated shank.

Non-Skip Check Valve are swivel type to prevent kinking of hose. Similar standard couplers supplied in either swivel or non-swivel types.

PUSH to connect. TWIST to grip and Push to disconnect. Shut-off at coupler.

Write for complete price list showing the full line of Schrader Couplers, Air Valves and Gauges, and other Schrader Products . . . also free Military Air Hose Coupler Application Air Engineer Data, etc., ask for complete Tire Pressure Gauge.

A. SCHRADER'S SON
Div. of Scovill Manufacturing Company, Inc.
Vanderbilt Avenue
BROOKLYN 17, NEW YORK Dept. IN-12

Schrader

▼ ——— Identify by IEN-4872 if you write the maker —▼

B.F.Goodrich
TW ANALYSIS PLAN

Studies prove savings can be made in 2 out of 3 cases. Proper tire maintenance alone can cut costs up to 20%

CUT tire & wheel costs up to **50%**

Here's how you can save—up to half of your materials handling and industrial handling tire and wheel costs. The TW Analysis determines: correct type and size of tire, correct tread design, correct tread rubber compounds and applies all correct factors to the specific job.

Here's how it works—A man trained in materials handling problems will survey your operations, study loads, hauls, handling equipment, floors and loading surfaces, also any special problems you may have. On completion of this survey the BFG man, without charge or obligation on your part, will recommend the best type and size tires and wheels to suit particular service, including suggestions on tire care and maintenance.

Here's why BFG can be impartial—No other company offers the wide range of types or sizes of tires and tread compounds as B.F. Goodrich. Your BFG man has no axe to grind, his company "makes 'em all". His advice is impartial!

14 types of tires 6 different tread compounds!

BFG's complete line of industrial tires includes pneumatics, puncture-sealing cover tubes, solids (all types) and Zero Pressure semi-pneumatics. There's a wide choice of tread designs and a choice between 6 different tread rubber compounds including the famous all-weather proof compound.

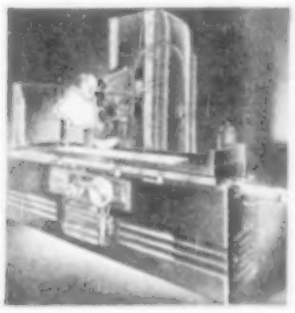
B.F.Goodrich

Mail the coupon for full details of no obligation. A SIMILAR PROGRAM IS NOW READY FOR MANUFACTURERS OF INDUSTRIAL HANDLING EQUIPMENT

▼ ——— Identify by IEN-4874 if you write the maker —▼

GRINDING . . Surface type machine with coolant directed through the wheel

Source: GALLMEYER & LIVINGSTON CO.
334-8 Straight Ave., S. W., Grand Rapids 4, Mich.



New design of the company's line of surface grinders with coolant directed through the wheel. The machine is now equipped with a new arrangement of coolant feed which delivers coolant to the wheel and automatically guards against the grinding wheel operator being struck by the working table.

The coolant flows on the front of the wheel, strikes the work at the point where the wheel first comes in contact with it, and then flows down and off the work. It is not necessary to stop the machine to adjust the coolant flow. The coolant is pumped to the right-hand corner of the machine and returned to the sump tank at the left-hand corner. Coolant is recirculated.

▼ ——— Identify by IEN-4875 if you write the maker —▼

ELECTRIC WIRE . . Nickel clad copper for heat resistance and conductivity

Source: SYLVANIA ELECTRIC PRODUCTS INC.
500 Fifth Ave., 50th Fl., New York 18, N. Y.

Nickel cladding is 27½ to 29½.

Kolcrid resists normal corrosion at the point where the insulation draws moisture from surrounding air. The manufacturer says it is prepared to supply wire with other coatings if desired. Kolcrid is a trademark.

▼ ——— Identify by IEN-4876 if you write the maker —▼

HANDLING . . Safety drop hook to grip, elevate and release a load

Source: COFFING HOIST CO.
902 Walters St., Danville, Ill.

Aluminum side plates and steel hook, cam and lever make up the assembly of this hook. Hook is designed to latch in load eye and lift. It is rated at 2 tons capacity, weighs 2½ lbs. in stock size and 3½ lbs. in mobile

BRIEFITS—Identify by IEN-4881 if you write the maker

Not just a washer!
Not just a metal stamping!

specify . . .

Quadriga
WASHERS • STAMPINGS

Strictly to your specifications for your particular product

Any quantity, large or small —Ask for complete catalog

THE QUADRIGA MANUFACTURING CO.

115 A W. Grand Ave. Chicago 10, Ill.

BRIEFITS—Identify by IEN-4882 if you write the maker

VULCAN
ELECTRIC SOLDERING TOOLS

PLUG TIP

All parts replaceable by simply removing 4 screws

50 Watts 1/4" Tip Dia.
100 Watts 5/16" Tip Dia.
150 Watts 3/8" Tip Dia.
150 Watts 1/2" Tip Dia.
200 Watts 5/8" Tip Dia.
300 Watts 1" Tip Dia.

VULCAN ELECTRIC COMPANY
DANVERS 6, MASS.

Makers of Vulcan Electric Soldering Tools, Electric Solder Pots, Electric Branding Irons and Electric Heating Units, including the new Vulcan 400 Series for changing over any hot water heater to electric operation.

BRIEFITS—Identify by IEN-4884 if you write the maker

DUST COLLECTING . . Blower unit cleans dust laden air at a machine

Source: AGET-DETROIT CO.
401 Main St., Ann Arbor, Mich.

Dustbuster feeds across the most recent design in the company's line of dust-collecting equipment. The new design employs a blower with a ½ hp. motor operating at 3,600 rpm. to draw in dust-laden air and deliver it through a cover assembly to a cooler-mounted container in the housing. Also connected to the cover is a large dust filter bag through which air can escape while the dust is retained. Snap latches secure the assembly, permit quick detachment when the container is to be wheeled out and dumped to dispose of the dust.

Rating is 600 cfm on a 5-in. inlet. Overall dimensions are 14 in. tall by 7½ in. square. Shipping weight is 125 pounds.

BRIEFITS—Identify by IEN-4885 if you write the maker

PLASTIC . . Teflon molded in rod and tube for machining uses

Source: POLYMER CORP.
405 Walnut St., Reading, Pa.

Machines into finished parts

Teflon rod is now available from the company in diameters from 1/16 to 2¾ in. and will be available in sizes ranging in form, steps from ¼ to 1½ in. in extruded form. Tubing is available also in sizes starting at 1/16 in. in outside diameter with ⅛ in. the thickest wall.

Applications are in high-frequency insulation in electrical and electronic equipment, gaskets, sealing and packing parts in processing equipment where corrosive conditions, non-sticking quality, resistance to high temperature are required.

BRIEFITS—Identify by IEN-4886 if you write the maker

WHEELS . . Steel replacement tire for field assembly on kiln or drier

Source: STROH PROCESS STEEL CO.
1408-12 High St., Pittsburgh 12, Pa.

New design of steel tire for a kiln, cooler, drier employs interlocking machined seating surfaces in the rim and a diagonally split joint to permit field replacement by the equipment user. The new unit bolts in place and its connecting joints are welded. Safe loading is about 30,000 lbs. of face width. The company is prepared to supply the tire to specified dimensions.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 86

BRIEFITS—Identify by IEN-4888 if you write the maker

NEW
LINCOLN "FLEETWELDER" 200
for easy welding

- **Arc Booster Starts Arc Automatically** the instant the electrode touches the work . . eliminates electrode sticking
- **For Light Or Heavy Work.** Exceptionally stable arc at low currents for smooth welding of thin metals. Delivers high amps for heavy, continued welding, with all current up to 35 amperes.
- **Greatest Welder Value.** Sells at a lower price than any AC welder of its size and type. NEMA rated at 200 amps. with plenty of extra capacity. Protected against overload damage. Built for single phase power.

GET THE FACTS

Send for free "Fleetwelder" Bulletin 1302. Write
THE LINCOLN ELECTRIC COMPANY
Dept. 123 Cleveland 1, Ohio

Sales Offices and Field Service Shops in All Principal Cities

BRIEFITS—Identify by IEN-4889 if you write the maker

BETTER WELDS at LOWER COST
with "electrically controlled"
AIR POWER

Bellows "Controlled-Air-Power" applied to spot welders assures uniform pressure on electrodes while current is on, and proper "squeeze" while metal cools. . . . Lessens weld failure, gives more welds per hour at lower weld cost.

Model BSM-10 Electrically Controlled Bellows Air Motor is quickly and easily installed on almost all spot welders.

Write for case histories, wiring diagrams. Ask for File 47-280.

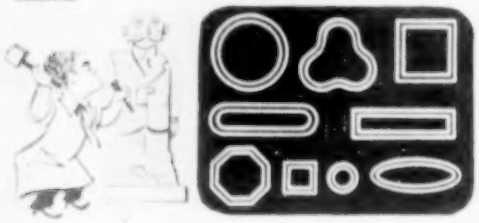
ADDRESS: DEPT. I.E.N. 550

The Bellows Co.
AKRON, OHIO

"CONTROLLED AIR POWER" FOR FASTER, SAFER, BETTER PRODUCTION

BRIEFITS—Identify by IEN-4883 if you write the maker

"Shape" is important in small tubing too!



When you have a design or production problem involving small tubing, we are ready to help. At Superior we draw tubing to special shapes, to meet your specifications, in sizes of .020 to .500 in. diameter, in metals of stainless 18-8 Carbon, 430 and Non-ferrous Steel, Nickel, "Monel", K-Monel", "Inconel" and Beryllium Copper. The tubing is furnished in any length, to random lengths, accurately dimensioned to your requirements, with bright, clean inside and outside finish.

For more information about Superior Tubing, write. Request a representative, or send a sample for quotation. Write today.

FREE: A 12 in. piece of Tubing No. 31. It's packed with tubing data.

Superior
THE BIG NAME IN SMALL TUBING

SUPERIOR TUBE COMPANY • 2068 Germantown Ave., Norristown, Pa.

BRIEFITS—Identify by IEN-4887 if you write the maker

REDUCE YOUR FASTENING COSTS
with
SEMS by SHAKEPROOF

WRITE FOR *Free* TEST KIT

ask for Kit No. 23 ——→

SHAKEPROOF inc.
fastening Headquarters
DIVISION OF ILLINOIS TOOL WORKS
3501 North Keeler Avenue, Chicago 39, Illinois
In Canada: Canada Illinois Tools, Ltd., Toronto, Ontario

BRIEFITS—Identify by IEN-4890 if you write the maker

LONG CARTONS
CLOSED IN SHORT TIME

The manufacturer of shelf-ready cartons with an International Retractable Arch Staple Machine. The cartons are wrapped around the machine and the International Machine does the rest . . . Staples the open side and both ends in seconds. The operator presses the carton against the machine, and a staple is automatically driven and clinched inside the carton by the ingenious retractable head.

An International Staple Machine can suit your packing needs, too.

INTERNATIONAL STAPLE & MACHINE CO.
HAVERTOWN 5, PENNA.
EST. 1938

DISTRIBUTORS IN PRINCIPAL CITIES

▼ FREE FACTS—Identify by IEN-4891 ▼

TOLEDO FLOOR SCALES

help you Save Time . . . CUT COSTS!

STOP ERRORS

TOLEDO

HEADQUARTERS FOR SCALES

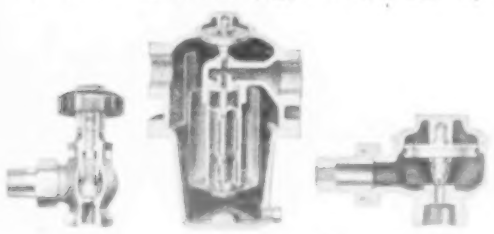
▼ FREE FACTS—Identify by IEN-4892 ▼

FREE... 8-Question Check Chart Exposes High Cost Manual Handling

Automatic

Automatic ELECTRIC TRUCKS

▼ FREE FACTS—Identify by IEN-4893 ▼



ILLINOIS STEAM SPECIALTIES

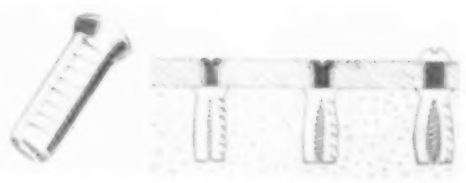
Investigate! Compare! Try Illinois Traps on your worst service and be guided by results!

ILLINOIS ENGINEERING COMPANY
INCORPORATED 1900

▼ FREE FACTS—Identify by IEN-4894 ▼

FASTENING . . Lead screw anchor for use in glass, tile, masonry

Source: U. S. EXPANSION BOLT CO.
600 State St., York, Pa.



▼ FREE FACTS—Identify by IEN-4895 ▼

LUBRICATING . . Non-melting grease for bearings subject to hot operation

Source: WARREN REFINING & CHEMICAL CO.
748-52 Prospect Ave., Cleveland 15, Ohio

Can be pumped when it is cold

▼ FREE FACTS—Identify by IEN-4896 ▼

SCAFFOLD . . Foot operated platform rides up and down on ¼-in. wire rope

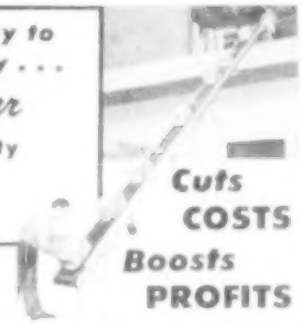
Source: SAFWAY STEEL PRODUCTS CO.
6234 W. State St., Milwaukee 13, Wis.

30 Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Description — Ratings — See Page 30

▼ FREE FACTS—Identify by IEN-4897 ▼

Modern way to save money . . .

Farquhar medium duty PACKAGE CONVEYOR



Cuts COSTS

Boosts PROFITS

A. B. FARQUHAR COMPANY
204 Duke St., York, Pa. or 620 W. Elm St., Chicago, Illinois

Farquhar CONVEYORS *SAVE YOU MONEY*

HYDRAULIC PRESSES • FARM EQUIPMENT • FOOD PROCESSING AND SPECIAL MACHINERY

▼ FREE FACTS—Identify by IEN-4898 ▼

DO YOU KNOW?

—that a PILOT LIGHT CAN IMPROVE YOUR PRODUCT . . . add attraction—safety—service?

Ask DIALCO

THIS MAY BE THE ONE

SAMPLES for design purpose NO CHARGE

NEW! Write for the HANDBOOK OF PILOT LIGHTS

Write us on your design problems.

Foremost Manufacturer of Pilot Lights

The DIAL LIGHT COMPANY of AMERICA

900 BROADWAY, NEW YORK 3, N. Y.

▼ FREE FACTS—Identify by IEN-4899 ▼

NEW SAVINGS . . . with Kodagraph Autopositive Paper

Since 1947 the production of photographic tools needed for heavy-duty, labor-saving equipment for The Heald Machine Company, Worcester, Mass., thanks to Kodagraph Autopositive Paper.

With this revolutionary, low-cost intermediate material, positive photographic copies of original drawings are produced directly—without a negative step and without darkroom handling. Furthermore, *Heald* uses its direct process machine for the exposure operation, attaching photographic solutions for developing and

How "Autopositive" is used. A large percentage of the precision grinding machines manufactured by Heald are specially engineered to customer specifications. And frequently, Heald is required to design special tools and fixtures for the multiple-component grinding setups. These originals are reproduced on "Autopositive" by Heald's normal and natural steps in the operations where the print is employed.

Once when a particular component for a duplicate mill order is ordered, these prints can be made promptly from the Autopositive. There are times when Heald engineers find that two or more machines can be set up to grind identical parts simultaneously, or that a machine can be set up to grind a number of identical parts quickly.

A NEW FREE BOOKLET gives you full information on Kodagraph Autopositive Paper, the revolutionary photographic intermediate material that is now in use in Heald laboratories and process shops throughout the country. Write for it today.

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak TRADE MARK

▼ FREE!!!—Identify by IEN-4901 if you write the maker ▼

Write for BULLETIN No. 48

BARREL TRUCKS
DRUM TRUCKS
KEG TRUCKS
PACKAGE TRUCKS
BOX TRUCKS
COIL TRUCKS
SHOP TRUCKS
TOTE PAN TRUCKS

..before you buy one-man

TRUCKS see the SABIN LINE

In addition to the trucks listed above, we manufacture Special Trucks to meet your individual needs.

Sabin trucks are a quality product at a reasonable price. They are built for easy handling and long, satisfactory service.

THE SABIN MACHINE CO.
6540 Carnegie Ave.
CLEVELAND 3, OHIO

▼ FREE!!!—Identify by IEN-4902 if you write the maker ▼

NOW! — your favorite marking tool IN 2 SIZES

Industry Adopts
COLOR MARKING

Flo-master FOUNTNBRUSH

▼ FREE!!!—Identify by IEN-4903 if you write the maker ▼

Cyanamid ... FOR OVER 25 YEARS

HEADQUARTERS For Salt Bath Compounds

AEROHEAT

AEROCARB

AEROCASE

AMERICAN Cyanamid COMPANY

▼ FREE!!!—Identify by IEN-4904 if you write the maker ▼

SWITCH . . Pressure operated double assembly provides two circuits

Source: MELETRON CORP.
Highland and Romaine, Los Angeles 38, Calif.

▼ FREE!!!—Identify by IEN-4905 if you write the maker ▼

CASTINGS . . Permanent mold aluminum processed to seal the casting pores

Source: MONARCH ALUMINUM MFG. CO.
9303 Detroit Ave., Cleveland 2, Ohio

▼ FREE!!!—Identify by IEN-4906 if you write the maker ▼

WOOD WORKING . . Motor driven plane operates at 20,000 rpm., weighs 8 lb.

Source: PORTER-CABLE MACHINE CO.
1712-16 N. Salina St., Syracuse 8, N. Y.

Model 101 is a new motor-driven plane with width capacity at 1½ inches. It incorporates an adjustable apron for cut angle to 25 degrees. The portable unit can be mounted in a shaper bench stand for joint or stock, and can be equipped with carriers for shaping.

The motor is universal-type at 20,000 rpm. (no-load) on 115-volt a-c or d-c. The housing is die-cast aluminum; maintenance-free brushes are 13/64 by 1/2 by 5/8 inches. Weight is 8 pounds. A dust-exhausting unit may also be supplied as auxiliary equipment.

30 Makers of Fibers, Mill Supplies, Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 30

▼ FREE!!!—Identify by IEN-4907 if you write the maker ▼

NO KING-PIN
Lock-Weld Construction

FAIRBANKS
Revolutionary
SERIES "21"
SWIVEL CASTERS

FULL LINE 2"-4" SWIVEL Sizes 2" to 4"
2"-4" RIGID Sizes 2" to 4"
*Patented

There's no king-pin in the Fairbanks Series "21" ground and Swivel Casters — with rock-weld construction. Rigid, all-steel ball race retains large thrust bearing formed by tapering plate flange and under side of lower race as, and automatically designed, dust-and-grease-proof fork-yoke encloses that is unqualified for long, trouble-free service at low cost.

SERIES "21" Swivel Casters match the Series "21" Swivel Casters in rugged construction, in all heights.

Send for free BULLETIN 2121A

THE Fairbanks COMPANY
393 LAFAYETTE STREET • NEW YORK 3, N. Y.
Branches: New York 3 • Pittsburgh 22 • Boston 10 • Rome, Ga.

TRUCKS • CASTERS • VALVES • DART & "PIC" UNIONS

▼ FREE!!!—Identify by IEN-4908 if you write the maker ▼

LETS HAVE THE TOUGHEST CHAIN JOB IN YOUR PLANT

● Put HERC-ALLOY Steel Chain on the toughest job you can find. Let HERC-ALLOY service experience records give you first hand, the undeniable answers in black and white.

Production executives and safety directors who have used HERC-ALLOY for slings or other applications agree they have yet to find an alloy steel chain superior to HERC-ALLOY.

COLUMBUS McKINNON CHAIN CORPORATION
(Affiliated with Chisholm-Moore Hoist Corporation)
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
SALES OFFICES: NEW YORK • CHICAGO • CLEVELAND • SAN FRANCISCO
Other factories at Angola, New York; St. Catharines, Ontario and Johannesburg, S. A.

▼ FREE!!!—Identify by IEN-4909 if you write the maker ▼

INSTALL
Door Frames · Conduit Boxes · Panelling · Pipe Brackets · Air Ducts · Scores of other items

3 TIMES FASTER with the M·S·A VELOCITY-POWER Driver

Equipped with POSITIVE ACTING, SPRING-IMPELLED FIRING PIN!

CUTS FASTENING TIME

The M·S·A. Driver slashes to a fraction the time formerly needed to anchor conduits, install door frames, hang pipe brackets, attach ductwork—any of scores of applications where steel or wood are fastened to concrete or steel. Saves money!

SAFE AND DEPENDABLE

Powder-actuated, the M·S·A. Driver uses an integral stud and piston to assure trouble-free, fault and disturbing noise. A push on the handle releases the spring-impelled firing pin, assuring maximum safety. Driver cannot operate unless safety arm is seated and held in position.

WRITE FOR DEMONSTRATION

Let us arrange to have the nearest M·S·A. representative give you an actual demonstration of the M·S·A. Driver . . . see for yourself how simple, safe, and positive it is in action; on your kind of jobs. No obligation. Write today.

MINE SAFETY APPLIANCES COMPANY
BRADDOCK, THOMAS AND MEADE STREETS
PITTSBURGH 8, PA.
At Your Service:
54 BRANCH OFFICES IN THE UNITED STATES AND CANADA

▼ ADDITIONAL—Identify by IEN-4911 if you write the maker ▼

ELIMINATE . . .

1. Screw Thread Troubles
2. Solid Bushings

Stripping, abrasion, wear, corrosion, galling, and seizing are eliminated when Heli-Coil Screw Thread Inserts are used as a permanent tough lining between thread and mating member. These stronger, more durable precision formed wire inserts of stainless steel or phosphor bronze are designed for use in iron and steel, aluminum, magnesium and other non-ferrous metals, and in wood, plastics, and ceramics.

Heli-Coil Inserts are original equipment components in such industries as aviation, automotive, railroad, electronics, machinery, appliances and small tools. They assure production economies, improve products, save weight and space, make assembly and disassembly easier. Simple Heli-Coil Inserts are the low-cost answer to all screw thread troubles.

Write for the complete Heli-Coil design data folder and prices.

HELI-COIL CORPORATION
42-22 28th STREET • LONG ISLAND CITY 1, N. Y.

▼ ADDITIONAL—Identify by IEN-4912 if you write the maker ▼

Welders spend more time welding—do better welding at lower cost when they work with C-F Positioners because their hand and or power operated machines reduce positioning time to a minimum. Investigate the cost saving advantages of C-F Positioners. They pay their way in any company.

Write for Bulletin WP-24—an illustrated booklet detailing the Specific Advantages of C-F Positioners.

CULLEN-FRIESTEDT CO.
1310 S. Kilbourn Chicago 23, Ill.

▼ ADDITIONAL—Identify by IEN-4913 if you write the maker ▼

Prove it by 30 DAY TRIAL in Your Own Shop

Try the Foley Automatic Saw Filer for 30 days in your own shop. You'll be under no obligation. See how it sharpens your saws, hand saws up to 4" wide and circular saws up to 36" in diameter. Notice how the Foley Automatic Saw Filer accurately contours each tooth ground for gullet filing and maintains them to your size, shape and spacing. Every tool the Foley Automatic Saw Filer is to "touch" for speed will turn around quicker for you.

FREE BOOK TELLS HOW—The instruction book that goes with the Foley Automatic Saw Filer is yours for the asking. Every tooth you send back unsharpened are eliminated through simple and positive adjustments. The book does a double job—helps you cut production costs with better cutting saws and shows you how to boost your profits.

FOLEY MFG. CO.
1319 N. E. 13th St., Minneapolis 13, Minn.
Please send instruction book and information on Model 81 saw filer.
Name
Address

▼ ADDITIONAL—Identify by IEN-4914 if you write the maker ▼

CHUCK . . And operating cylinder, both with aluminum bodies, to 12 in.

Source: CUSHMAN CHUCK CO.
800 Windsor St., Hartford 2, Conn.

Four sizes (6", 8", 10", 12") of chuck are available. Fig. 1 is a 12" chuck with 2" through hole. Fig. 2 is a 10" chuck with 1½" through hole. Both chucks are of the scroll type and the jaws are reversible. Longest jaw travel is 1.5" on the 12" chuck and 1.25" on the 10" chuck. Jaws are hardened and ground. Chucks are balanced at 2000 rpm. Maximum speed is 3000 rpm.

The chuck

The cylinder

▼ ADDITIONAL—Identify by IEN-4915 if you write the maker ▼

MILLING . . Carbide blade cutter, insert design for cast iron and steel

Source: GODDARD & GODDARD CO.
Stanley at Irving, Detroit 23, Mich.

Shank-end mills

Bulletin

▼ ADDITIONAL—Identify by IEN-4916 if you write the maker ▼

BORING . . Jig boring machine 36 by 78 in. table, 48 in. center unit

Source: PRATT & WHITNEY DIV.
49 Charter Oak Blvd., West Hartford 1, Conn.

New table

Moving the table

Index to Products and Services Listed on Pages 88 to 91

▼ ADDITIONAL—Identify by IEN-4917 if you write the maker ▼

SET NO. 1 FOR SMALL SHOPS

Continental interchangeable Counterbore sets give you a wide variety of cutting tools in a compact, convenient form. Three sets are available, for the large or small toolroom. Each set features the famous Continental indestructible drive that will not slip, will not break, and is always hand detachable. Full details are given in Bulletin 127161. Send for your copy.

CONTINENTAL TOOL WORKS
Division of Ex-Cell-O Corporation
Detroit 32, Michigan

CTW

▼ ADDITIONAL—Identify by IEN-4918 if you write the maker ▼

Write today for FREE demonstration on your own work in your own hacksaw machines. Just say you want to be there. No obligation of course.

MILLERS FALLS COMPANY • DEPT. P • GREENFIELD, MASS.

▼ ADDITIONAL—Identify by IEN-4919 if you write the maker ▼

CHICAGO TOOL and ENGINEERING CO.

JUST A FEW OPERATIONS YOU CAN DO ON YOUR LATHE!

▼ Identify by IEN-4920 if you write the maker ▼

▼ Identify by IEN-4921 if you write the maker ▼

NEW!

WALKER-TURNER

12" Tilting Arbor Saw

Cuts Production Costs!

LOOK AT THE FEATURES . . . COMPARE!

CAPACITY: 4" Dado capacity 1¼" wide.
SAW ARBOR: 1" diameter.
TABLE: 18" wide x 28½" deep.
SPINDLE SPEED: 3600 r.p.m.
DRIVE: Exclusive "Synchro Belt Drive"
SAW GUARD: New improved safety guard and splitter.
RIP FENCE: New T-fence locks front and rear; micrometer adjustment; "T" slots for miter gauge.
5 h.p. 3 phase motor or 3 h.p. single phase.

SOLD ONLY THROUGH AUTHORIZED DEALERS

Walker-Turner DIVISION
KEASBEY & TATTLEY CORP. PLAINFIELD, N. J., U. S. A.

walker-turner DIVISION

See your local dealer for complete information on this and other metal and woodworking machines in the complete Walker-Turner line. Or mail coupon for catalog.

WALKER-TURNER DIVISION
Keasbey & Tattley Corp.
Dept. IEN Plainfield, N. J.

Please send me a copy of the complete Walker-Turner Catalog.

Name
Firm
Address
City Zone State

▼ Identify by IEN-4923 if you write the maker ▼

RECTIFYING . . Selenium unit assembles square air cooled cells

Source: SARKES TARZIAN INC
413-17 N. College Ave., Bloomington, Ind.

Centre hooded [illegible] series new line of ac-cesoire rectifiers for use in radio, televi-sion and other elec-tronic equipment. The design is featured by spacers between the cells to permit en-trance of air in where current density is greatest. Ratings at working rate 65 to 130 milliamperes at 130 volts.

Smallest assembly measures 1 in. x 1 in. over the wire and is [illegible] in several stages. Largest measures 2½ x 3 in. by 3½ in. Each takes a No. 4 machine screw through the center for mounting. Monograph sheets giving complete characteristics are available on request.

▼ Identify by IEN-4924 if you write the maker ▼

CONVEYING . . Inclined belt unit to handle work from punch presses

Source: INDUSTRIAL ENGINEERING & MFG. CO.
50 Industrial St., Brimfield, Ind.

Model 100-I [illegible] is a new port-able incline conveyor employ-ing a 12-in. steel-equipped belt, made of 4-ply 32-oz. canvas. The unit operates in a channel measuring 8 ft. in length. The sides are lined with 8-in. side panels on a frame measur-ing 15 in. in width. Drive is by a 1/3-hp. ac motor for standard belt speed of 31 fpm.

The line includes assemblies to 24 ft. in length. All are equipped with pulleys operating on double-sealed self-aligning ball bearings that are factory lubricated for life.

▼ Identify by IEN-4925 if you write the maker ▼

CORROSION PROOFING . . Rod, tube, sheet made from non-metallic material

Source: HOUGHTON LABORATORIES
888-92 N. 4th St., Olean, N. Y.

Dielectric strength is 350 volts per mil

Hysol 6000 [illegible] is a new epoxy resin industrial material, pro-duced in the form of rod, tube and sheet for use in equipment to contact acids and solvents. It is impervious to most hydrocarbon solvents, water, aqueous solutions of acids and alkalies, 90 per cent methanol and 50 per cent acetone at room temperatures. It is unaffected by water and aqueous salt solutions at temperatures to boiling point. The material can be fabricated with equipment for wood or metal working.

Rod sizes range from ¼ to 6 in. in 1/16 increments with lengths of 36 inches. Tube measures 1 in. to 6 in. in increments with thick-nesses of ⅛ inch. Standard lengths are 36 inches. Sheets meas-ure 18 by 36 in. with thickness varying from ⅛ to 2 in. in ⅛ steps. Tube and rod can be made in lengths to 12 ft. Ordering an order of sufficient quantity to warrant tooling would cost. The usual tooling cost for sheet, in sizes up to 3 by 5 feet [illegible]

▼ Identify by IEN-4926 if you write the maker ▼

WEIGHING . . Dial type scale in platform assembly or as a dial only

Source: STREETER-AMET CO.
4103 N. Ravenswood Ave., Chicago 13, Ill.

Series 500 [illegible] are a new group consisting of 100 complete and 100 dial head units with a wide variety of platform and mounting options. Capacities are 100, 1,000 and 5,000 lb. in 2 and 3 in. dimensions. Platform sizes are 10½ by 10½ in. and 12 by 12 in. Accuracy is 99½ per cent [illegible] 1,000 and 5,000 lb. capacities are 200 lb. [illegible] pounds. The dial can be turned on the column so any position is read from front, side or rear.

The head alone [illegible] for mounting in machines or in the man-ufacturer's equipment, or with a bracket clamped to fixed part of machine for existing jobs. The mechanism is sealed against dust and moisture. Mounting can be on almost any surface and in any position. The housing is cast aluminum. The [illegible] of steel. The [illegible] weighing is designed [illegible]

All Makers in These And 33 Other Products Are Listed in THOMAS REGISTER ... Catalogs ... See Page A6

▼ Identify by IEN-4927 if you write the maker ▼

All plant managers should know these facts about pressure-treated lumber

FIRST PROTECTION . . Treating of lumber preserves it . . just as paint preserves metals. The purpose is to protect lumber against rot and termite damage, and to protect your plant investment.

SECOND PSYCHOLOGICAL TREATMENT VS. SURFACE APPLICATION . . Authorities say that pressure treating for inside surface applications, because it penetrates deep into the fibers of the wood.

THIRD OTHER QUALITIES TO LOOK FOR . . For greatest usefulness, preservatives used in treating lumber also should be clean, odorless, noncorrosive, non-leaching, non-corrosive.

FOURTH WOLMANIZED Pressure Treated Lumber combines all these requirements . . and it is 3 times cheaper than untreated wood, because it's treated under 600 lbs. pressure per square inch. It's clean, odorless, paintable, non-leaching, non-corrosive.

For complete facts about WOLMANIZED Pressure-Treated Lumber, write for free booklet.

WOLMANIZED PRESSURE TREATED LUMBER

AMERICAN LUMBER & TREATING COMPANY

Branch Offices: [illegible] General Offices: 1945 McCormick Bldg., Chicago 4, Illinois
Reference Books: [illegible] Los Angeles, New York, Portland, Ore., San Francisco

▼ Identify by IEN-4928 if you write the maker ▼

PAINT-BAKING OVENS

by SPRA-CON

DESIGNED, ENGINEERED AND MANUFACTURED TO MEET YOUR INDIVIDUAL PRODUCTION REQUIREMENT

GAS, OIL, STEAM OR ELECTRIC FIRED

CONVEYORIZED OR BATCH TYPE

A SINGLE OVEN UNIT, OR COMPLETE FINISHING SYSTEM

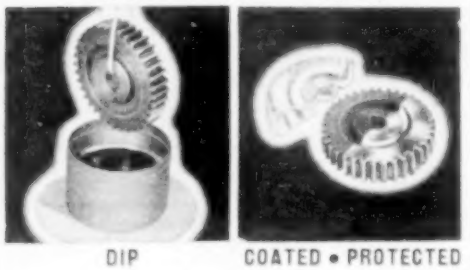
For Finer Quality,
For Greater Production,
Consult Us Now.

THE SPRA-CON CO.
1404 N. WESTERN AVE. CHICAGO 22

▼ Identify by IEN-4929 if you write the maker ▼

HOT MELT PLASTIC COATINGS FOR GEARS, TOOLS, PRECISION PARTS

BEFORE AFTER



DIP COATED • PROTECTED

FIDELITY DIP-PAK. Protect vital, expensive tools, gears and machined parts during storage and shipping with Fidelity's durable, transparent plastic coatings. Merely melt coating briquette. Dip parts, cool. Lasts indefinitely. Tough, abrasive, moisture, rust resistant. To remove, slit, peel. Re-melt, re-use coating. Economical, practical, rapid. Protect parts, save money.

Write for Bulletin and Free Samples

FIDELITY CHEMICAL PRODUCTS CORP.
470 Frelinghuysen Ave. Newark 5, N. J.

▼ FREE FACTS—Identify by IEN-4930 if you write the maker ▼

For the utmost in performance, safety and long life, specify tough Wickwire Rope. Available in a complete range of sizes and constructions . . . regular lay and WISSCOLAY Preformed.

Write now for your free copy of "Know Your Ropes." Contains 52 pages of suggestions on selection, application and usage of Wire Rope. Write to the Wire Rope Sales Office, Wickwire Spencer Steel, Palmer, Massachusetts.

WICKWIRE ROPE

PRODUCT OF WICKWIRE SPENCER STEEL DIVISION THE COLORADO FUEL & IRON CORP.
Wire Rope Sales Office & Plant—Palmer, Massachusetts
Executive Office—[illegible]
BRANCHES & DISTRIBUTORS IN KEY CITIES EVERYWHERE

▼ FREE FACTS—Identify by IEN-4931 if you write the maker ▼

HIGH VACUUM PUMPS for CONTINUOUS SERVICE

Where [illegible] pumps are required to operate continuously [illegible] to meet the demand, specify F. J. Stokes Mechanical Pumps. [illegible] High Vacuum Mechanical Pumps give a practically unlimited [illegible]. Rotary mechanical pumps have high volumetric efficiency . . . low power consumption . . . long wear . . . low up-keep and maintenance . . . simple design . . . easy installation.

F. J. STOKES MACHINE COMPANY, 5500 TABOR ROAD, PHILADELPHIA 20, PA.

F. J. STOKES MACHINE COMPANY

▼ FREE FACTS—Identify by IEN-4932 if you write the maker ▼

OHIO STOCK GEAR "off the shelf service"

Gives You faster deliveries lower costs!

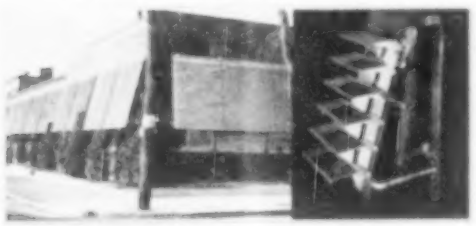
THE OHIO GEAR COMPANY
1241 East 176th St., Cleveland, Ohio
ESTABLISHED 1915

OHIO GEARS

▼ FREE FACTS—Identify by IEN-4933 if you write the maker ▼

BUILDINGS . . Aluminum awning assembles adjustable louvres on frame

Source: RHODE ISLAND EQUIPMENT & MFG. CORP.
1479-83 High St., Central Falls, R. I.



Rimtro [illegible] Bulletin. [illegible]

▼ FREE FACTS—Identify by IEN-4934 if you write the maker ▼

LUBRICATING . . Heat refined oil for bearings at elevated temperatures

Source: SWAN-FINCH OIL CORP.
30 Rockefeller Plaza, Rm. 1605, New York 20, N. Y.

Carbon deposit is prevented

Sales No. 1050 [illegible]

▼ FREE FACTS—Identify by IEN-4935 if you write the maker ▼

DRILLING . . Alloy steel tool to drill holes in hard steel parts

Source: BLACK DRILL CO.
1402 E. 222nd St., Cleveland 17, Ohio

Sizes range from No. 80 (.0135 in. dia.) to [illegible] the assembly required [illegible] A tool steel is used [illegible] provides greater accuracy, although [illegible] sharpening properties than high speed tool steel. The original design was described [illegible]

The drill [illegible]

▼ FREE FACTS—Identify by IEN-4936 if you write the maker ▼

SPRAYING . . Atomizing nozzle for liquid has needle to clean orifice

Source: SPRAYING SYSTEMS CO.
3208 Randolph St., Bellwood, Ill.

The shut-off needle [illegible]

The nozzle is provided [illegible]

All Makers of Items And All Other Products Are Listed In THOMAS REGISTER Descriptions Ratings — See Page 87

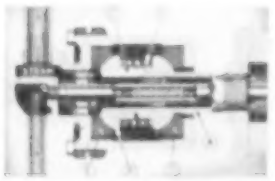
▼ FREE FACTS—Identify by IEN-4937 if you write the maker ▼

This packless stuffing box is packed with surprises!

WRITE FOR NEWLY PUBLISHED CATALOG

Johnson [illegible] were designed to be [illegible] for sealing [illegible] other than that there's little resemblance. In contrast they are completely packless, self-lubricating, self-adjusting and self-aligning. Almost every day [illegible] it is finding new ways to prolong [illegible] efficiency, lessen maintenance, [illegible] operation [illegible] wherever steam or liquids must be admitted to rotating machine parts. Chances are good you've got an application for Johnson [illegible].

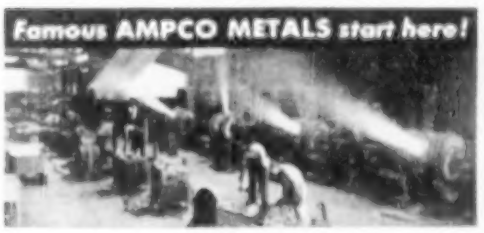
Supply [illegible] connected to [illegible] or drum [illegible] It is [illegible] to operate [illegible] [illegible] bearing [illegible] [illegible] bearing [illegible] [illegible] [illegible] packing and swing. Spring [illegible] [illegible] [illegible]



The JOHNSON CORPORATION 831 Wood Street, Three Rivers, Mich.

Johnson Rotary Pressure Joints

▼ FREE FACTS—Identify by IEN-4938 if you write the maker ▼



Detroit ROCKING Electric Furnaces deliver uniform, high-quality melts

Ampco Metals, Inc., of Milwaukee, has formed the world's largest [illegible] Ampco metal and many copper [illegible] [illegible] of Detroit Rocking Electric Furnaces to produce high quality, controllable melts economically. Ampco castings are of superior grain structure, show less [illegible] tensile strength, uniform color, and minimize [illegible] scrap loss.

For Ferrous Melting, Too

In ferrous melting, Detroit Electric Rocking Furnaces positively [illegible] control temperature and quality to produce metal of closer analysis [illegible] and shortage worries. Capacities [illegible] to 6000 lbs. Furnaces [illegible] chemical [illegible]

Can the facts on how you save [illegible] your [illegible] melting [illegible] Write today.

DETROIT ELECTRIC FURNACE DIVISION
KUHLMAN ELECTRIC COMPANY
1050 26th St. • BAY CITY, MICHIGAN

▼ FREE FACTS—Identify by IEN-4939 if you write the maker ▼

FREE FOR YOU

this fact-filled booklet on better ways to package your product

A handy reference manual prepared for use by the makers of Kimpak* crepe wadding. The work of technical experts, skilled engineers brings you the latest, safest methods of avoiding damage to products in shipment. Use it and watch your profits rise! [illegible]

SIMPLY MAIL THIS COUPON

Kendall-Clark Corporation,
Crepe Wadding Division,
Neenah, Wisconsin, U. S. A.

Please send me the free Kimpak booklet on better ways to package our product.

Name

Firm

Address

City Zone State

▼ Circle 4940 if you write the maker ▼

MARSHALLTOWN
DIAL THERMOMETERS

THE COMPLETE LINE

Now furnished in stainless steel bulb and nut. Marshalltown dial thermometers are accurate, compact, durable instruments for the indication of liquid or gas temperatures. They are available in a variety of temperature ranges from minus 40° F. to plus 500° F. Actuation is positive, direct with full freedom — no loops or pinions. Available in sizes 2", 2½", 4½" and 4½".

WRITE TODAY FOR FULL DETAILS AND PRICES

Marshalltown Mfg. Co., Marshalltown, Iowa

▼ Circle 4941 if you write the maker ▼

Whether You Fasten Metal...

PRODUCTION UP TEN TIMES FASTER

...or Wood

FROM 30 TO 150 UNITS PER HOUR

...or Cork

75% LOWER LABOR COST

...or Rubber

COST CUT IN HALF

...or Leather

THREE DAYS' SAVINGS

...Bostitch May Cut Your Costs, Too

ATTACH THIS COUPON TO YOUR LETTERHEAD

BOSTITCH

Fastens it Better with WIRE

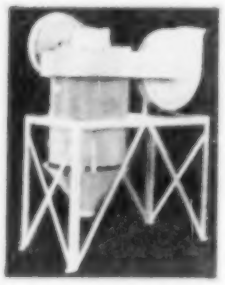
ALL TYPES OF MACHINES FOR APPLYING STAPLES

ALL TYPES OF STAPLES APPLIED BY MACHINES

▼ Circle 4943 if you write the maker ▼

SEPARATING . . Disc aspirator removes light waste from material flow

Source: SPROUT, WALDRON & CO.
541 Waldron St., Muncy, Pa.



Waste material, usually [illegible] is removed by a flow of moderate air velocity [illegible] Material [illegible]

▼ Circle 4944 if you write the maker ▼

CLEANING . . Liquid material prepares metal surfaces for painting

Source: OAKITE PRODUCTS INC.
116A Thames St., New York 6, N. Y.

Eliminates pickling in certain cases

Compound No. 33 [illegible] The liquid [illegible] Flash point [illegible]

▼ Circle 4945 if you write the maker ▼

CONVEYING . . Backstop ratchet prevents reversal in a conveyor

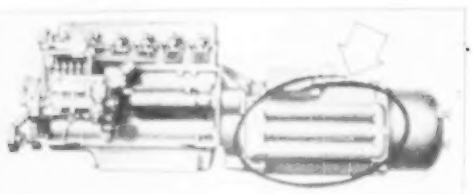
Source: AMERICAN PULLEY CO.
4242 Wissahickon Ave., Philadelphia 29, Pa.

A bucket elevator [illegible] Installation [illegible]

▼ Circle 4946 if you write the maker ▼

COOLING . . Flexible metal hose acts as heat exchanger on a generator

Source: CHICAGO METAL HOSE CORP.
1313 S. 3rd St., Maywood, Ill.



New application [illegible]

▼ Circle 4947 if you write the maker ▼

field tests show

18 TIMES THE WEAR

SURETY'S
NEW SURESEAL PK GLOVES
(with GRIPTITE PK FINISH)

Tough, on-the-job tests [illegible] Sureseal PK Gloves with Griptite Finish wore 18 times as long, handled 18 times as many parts, as good hot mill gloves with 3-inch thick wrappings of friction tape. And that kind of wear means LOW glove costs.

Sureseal PK Coating is super-resistant to chemicals, won't crack or peel. Surety's exclusive Griptite Finish grips effectively, wet or dry, oily or not—won't scratch metal, lasts as long as the gloves. Band top or knit wrist types available, with or without ventilated back.

Write for sample (on your business letterhead, please, specifying job involved).

DEPT. [illegible]

THE SURETY RUBBER CO

▼ Circle 4948 if you write the maker ▼

• Save Money, Floors, Equipment and Time by using DARNELL Casters

Pre-tested for Performance

DARNELL CASTERS

Free Manual

DARNELL CORP. LTD.
Long Beach 4, Calif.
60 Wallace St., New York 13, N.Y.
36 N. Clinton, Chicago 6, Ill.

▼ Circle 4949 if you write the maker ▼

For Quick, Tight Connections on Field or Factory Air Hose

"AIR KING"

Quick-Acting, Universal Type

HOSE COUPLING

DIXON VALVE & COUPLING CO.
DIXON ST. and COLUMBIA AVE., PHILADELPHIA 22, PA., U.S.A.
BRANCHES: CHICAGO - BIRMINGHAM - LOS ANGELES - HOUSTON - TORONTO

▼ FREE!!!—Identify as IEN-4950 in your letter for this item. ▼

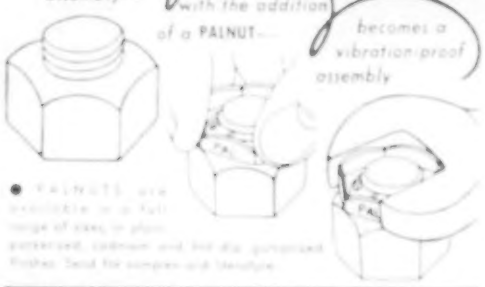
Wherever bolted assemblies **MUST** stay tight—

Rely on Double Locking PALNUT LOCK NUTS
TRADEMARK
...and save money, too!

This ordinary assembly—

with the addition of a PALNUT—

becomes a vibration-proof assembly



● PALNUTS are available in a full range of sizes in plain, cadmium, cadmium and hot dip galvanized. Finishes. Send for samples and literature.

The PALNUT Co.
59 Cordier St., Irvington 11, N. J.

▼ FREE!!!—Identify as IEN-4951 in your letter for this item. ▼

The HIGH PRECISION STANDARDS of ZENITH RADIO call for EQUALLY HIGH VISUAL STANDARDS

Writes Dr. Carl Maggio: "With our Keystone (tele-ophthalmic) we have completed over 20,000 examinations covering more than 5,000 men, with excellent results in all four categories of our visual program.

"(1) Establishment of visual standards for each occupation. (2) Screening new applicants and classifying according to visual ability. (3) Visual examinations of employees for transfer and promotion. (4) Recommendations for any eyeglasses where needed.

"There is little reason for combining visual defects in industry — at least 90% have proven correctable with proper care."

Periodic Vision Testing Increases Production . . . Reduces Spoilage . . . Lowers Accident Rates . . . Improves Morale by reducing fatigue, irritability, absenteeism.

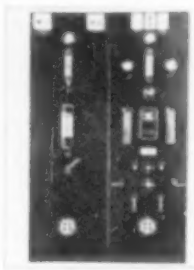
IN YOUR OWN PLANT, we will run sampling tests and make a visual analysis of job operations, with no obligation whatever. KEYSTONE VIEW CO., Meadville, Pa., originators of binocular vision testing in industry.

2500 Industrial Companies Use KEYSTONE Occupational Visual Tests

▼ FREE!!!—Identify as IEN-4953 in your letter for this item. ▼

TESTING . . Carbon monoxide recorder actuates chart equipped potentiometer

Source: MINE SAFETY APPLIANCES CO.
21 Braddock Ave., Pittsburgh 8, Pa.



CO concentration in the air is measured by the conductivity of electrolytic cells and bridge circuit, the potentiometer recorder responding from instrument. Two ranges are available, 0-100 parts per million and 0-200 parts per million. The two-part panel assembly, shown, is the instrument on the left and the auxiliary panel to the right. The potentiometer, not shown, can be set up to record separate air-sample concentrations at predetermined concentrations.

Intake from 3 points of sampling is handled automatically by a pump driven by a 1/4 hp. motor, located on top of the panels. The sample is drawn and passed through a Hopcalite unit where any CO is oxidized to CO_2. The accompanying elevation of heat is proportional to the quantity of CO present. This fact is employed for measuring the heat through thermocouples and transmitting their energy to the recorder.

▼ FREE!!!—Identify as IEN-4954 in your letter for this item. ▼

PLASTIC . . Soluble vinyl resin for protective and decorative coatings

Source: B. F. GOODRICH CHEMICAL CO.
122-26 Rose Bldg., Cleveland 15, Ohio

Remains stable on changing temperature

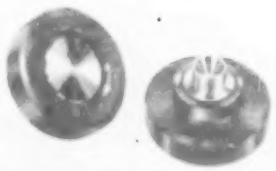
Vistanex 200 X 20 is a new vinyl resin of moderate molecular weight, high viscosity, high softening point, and low melting temperature. Vistanex 200 X 20 is soluble in aliphatic and aromatic hydrocarbons, chlorinated hydrocarbons, and mixtures of these solvents. Solutions of Vistanex 200 X 20 in petroleum solvents, such as mineral spirits, are water-white and have indefinite stability. Solutions have good resistance to water, alkalies, and dilute acids. Applications are as surface coatings, especially where water and chemical resistance are required, and as a modifying ingredient for other resins and rubbers.

Typical uses are in floor coatings and coatings for paper and cloth.

▼ FREE!!!—Identify as IEN-4955 in your letter for this item. ▼

WHEEL . . Plastic with steel stud for assembly on drawers and trays

Source: W-L MOULDING CO.
2013-17 Factory St., Kalamazoo 24, Mich.



Stardico WL100 is a two-piece assembly of phenolic molded plastic and steel, consisting of a threaded steel stud molded into a phenolic wheel. The wheel is available in several colors, and is designed for mounting in a hole with the stud projecting through the hole. The wheel is supported on the stud by the flat surface of the wheel. The wheel is free to rotate on the stud. The wheel projects 3/8 in. above the surface on which it is mounted. The wheel is 1 in. in diameter and 1/2 in. thick. The stud projects 3/8 in. below the wheel. The wheel is available in colors to match any color scheme.

▼ FREE!!!—Identify as IEN-4956 in your letter for this item. ▼

TESTING . . Vibrating sieve shaker for laboratory screen analysis work

Source: SYNTRON CO.
410 Lexington Ave., Homer City, Pa.

A set of six 8 in. sieves, with pan and cover, can be placed on the shaker and operated for a 10 min. period in approximately 1 minute. Vibrating intensity is adjustable by means of a knob on the front of the shaker. The screens of the set are clamped in place by a knurled thumbscrew. The shaker is equipped with a timer which automatically shuts off the vibrating mechanism at the end of the set period.

The assembly is mounted on a sturdy base. The operating mechanism consists of the electromagnetic vibrator, a timer, and a control switch. The vibrator is mounted on a resilient support to isolate the vibrations from the base. The timer is a synchronous motor operated device with a maximum setting of 10 minutes.

Shaker is available at a moderate price.

▼ FREE!!!—Identify as IEN-4957 in your letter for this item. ▼

DEPEND ON—INSIST ON Starrett SATIN CHROME

OUTSIDE MICROMETERS
INSIDE MICROMETERS
INSIDE MICROMETERS
MICROMETER DEPTH GAGES

All 4 with Satin Chrome Finish

Starrett Satin Chrome Finish micrometers are stunning in appearance, as shifting to barrel light. Markings always stand out sharp, clear and easy to read. And for lasting accuracy, you get the added advantage of high resistance to stains and corrosion. Insist on STARRETT Micrometers with Satin Chrome Finish.

GET YOUR FREE COPY

Write for your free copy of Starrett New Tools Booklet "N".

Starrett Standard of Precision

THE L. S. STARRETT CO. ATHOL, MASSACHUSETTS, U.S.A.

▼ FREE!!!—Identify as IEN-4958 in your letter for this item. ▼

EYE LEVEL CHECK ON BOILER WATER LEVELS

Positive, constant check on boiler water levels is now possible at eye level—right on the instrument panel or other convenient location.

Yarway's Remote Liquid Level Indicator is always accurate because it's operated by the boiler water itself. No sealing boxes. Indicating mechanism is never under pressure.

Ideal for indicating boiler water level, feed heater water level, superheater pressure differentials and tank levels. For complete description and operating details, write for Bulletin WG-1821.

YARNALL-WARING COMPANY

YARWAY REMOTE LIQUID LEVEL INDICATOR

▼ FREE!!!—Identify as IEN-4959 in your letter for this item. ▼

for Model Kitchens!

DETROIT STAMPING CO.
142 Midland Avenue • • Detroit 3, Mich.

All Makers of These And All Other Products Are Listed in THOMAS REGISTER ... Descriptions ... Ratings ... See Page 50

▼ ———Identify by IEN-4960 if you write the maker ▼

The ANSWER to controlling air electrically!

MODEL NE *Electric* VALVE

10 WATT SOLENOIDS—Low power requirement. No relays, no transformers required. Operates directly off regular 110 or 220 v. circuits. Solenoids commonly rated.

FAST, EFFORTLESS CONTROL—Works by push button, limit switch, or any light contact. Only momentary contact needed. Ideal for remote control . . . interlock or sequence operation . . . finishing line equipment.

DISC TYPE—Pilot controlled, piston operated. Metal-to-metal seat, positively air-tight. Quiet, self-lapping, long lasting. No packing or seals to maintain.

HANNIFIN ENGINEERED—Small, rugged, self-contained. Type 1 for control of advance and return cylinder strokes through separate push buttons. Type 2 for single push button control —equivalent to spring return valve action. Sizes ⅛", ¼", ⅜" and ½". 25 to 150 p.s.i.

Ask for Bulletin 230

HANNIFIN

Pneumatic Equipment

1107 S. Kilbourn Avenue • Chicago 24, Illinois

Nationwide Sales and Service

▼ ———Identify by IEN-4961 if you write the maker ▼

NU-MATIC

MAKES AN IDEAL CONTACT WHEEL

FOR BACK STAND IDLERS

Accurate Nu-Matic Grinders can be inflated for hard, medium and soft grinding surfaces. They eliminate the necessity for 3 wheels and changing wheels for different operations. Standard 3½" abrasive bands can be changed in a matter of seconds. Low pressure provides surfaces suitable for carbon billing and polishing. You'll be amazed at the many operations where Nu-Matic Grinders save time and money. Adapters for ¾" to 1¼" to 1½" power equipment. Specify size.

Adjustable to bench, portable or flexible shaft power.

NU-MATIC GRINDERS, INC., 10304 W. McNICHOLS RD.

Detroit 21, Michigan UNiversity 3-2573

▼ ———Identify by IEN-4962 if you write the maker ▼

EASY TO READ AT A DISTANCE

POWERS

DIAL THERMOMETERS

Help Cut Costs—The most accurate, dependable and economical thermometers for process control. Here's why each unit is equipped with a Thermometer Direct-reading Dial. Thermometer Direct-reading Dial. Here's why each unit is equipped with a Thermometer Direct-reading Dial. Here's why each unit is equipped with a Thermometer Direct-reading Dial. Here's why each unit is equipped with a

▼ REPEAT—Identify by IEN-4969 if you write the maker ▼

REALOCK FENCE

Protects

FACTORIES
AIRPORTS
INSTITUTIONS
POWER PLANTS
RESIDENCES

Increase property safety . . . decrease cost of upkeep . . . with a well-erected, tamper-proof Realock® Chain Link Fence. Initial cost is moderate and maintenance is negligible.

Write for free estimate on fabric and fittings or complete installation. Consult classified phone directory for our nearest distributor or write our nearest division listed below.

Realock Fence

WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORP.
THE CALIFORNIA WIRE CLOTH CORP.
BRANCHES & DISTRIBUTORS IN KEY CITIES EVERYWHERE

▼ REPEAT—Identify by IEN-4970 if you write the maker ▼

For Your Material Handling Needs

Use SPEEDWAYS Low Cost,

Labor-Saving Conveyors

SpeedTUBE Roller Conveyors

SpeedLIFT

FormedLIFT

KEEP 'EM ROLLING WITH SPEEDWAYS CONVEYORS, INC.
1244 Niagara St.
Buffalo 13, N. Y.

▼ REPEAT—Identify by IEN-4971 if you write the maker ▼

Spray Nozzles

ALL TYPES . . . ALL SIZES

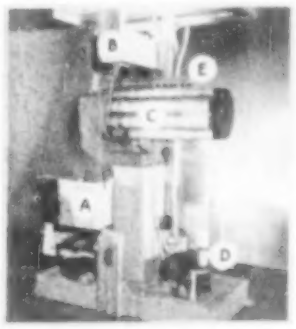
Select the spray nozzle you need from a complete range of sizes in types for every industrial application. Every nozzle is precision made to assure accuracy in the most exacting spray operation. These nozzles and their application are described in detail in General Catalog 22 and Pneumatic Atomizing Catalog 23. Get these two useful catalogs now for handy reference.

SPRAYING SYSTEMS CO
Engineers and Manufacturers
3208 RANDOLPH ST. • BELLWOOD, ILLINOIS
Suburb of Chicago

▼ REPEAT—Identify by IEN-4972 if you write the maker ▼

PROCESSING . . Automatic machine processes viscose rayon into yarn

Source: KULJIAN CORP.
1202 N. Broad St., Philadelphia 21, Pa.



New equipment [illegible] for the Rayon Division to wrench viscose rayon from the surface of a rotating [illegible] and pull it as a yarn [illegible] automatic take-up [illegible] is wound under [illegible] to form a package [illegible] one end. A given machine can be set up [illegible] as few as one drawing and can be [illegible] to produce automotive tire cord.

The viscose solution is pumped from a [illegible] to the spinneret chamber A. Here, where it meets [illegible] the form of extruded rayon in [illegible] to [illegible] It is [illegible] through [illegible] which [illegible] to right [illegible] It leaves as [illegible] drawn [illegible] the right hand end of [illegible] to wind on the bobbin at D. A [illegible] at this bobbin [illegible] mills change when a bobbin is [illegible] without stopping the machine or its subsidiary operations.

Yarn travel from left to right across the rotor drum is accompanied by successive applications of processing liquids and water rinses to take the yarn [illegible] This is accomplished by delivery of the liquids through spray nozzles on the arm E. Flow is regulated as there is no [illegible] Final treatment is by [illegible] to the right hand end of the rotor so the yarn can be [illegible] to the bobbin in completely processed and dry.

▼ REPEAT—Identify by IEN-4973 if you write the maker ▼

HANDLING . . Vacuum cup lifters to grip smooth surfaces, to 250 pounds

Source: W. I. MARTIN & CO.
3559-63 W. Ogden Ave., Chicago 23, Ill.

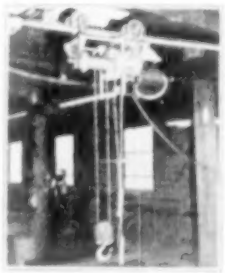
Five designs are now in the company's line of [illegible] work handling lifters in a load range from 10 to [illegible] pounds. All have neoprene cups in aluminum frames with spring-steel valve assemblies. The valves can be opened or [illegible] to make ultimate contact on right pressure. They are released to close for lift actions are depressed to release the load.

In addition to lifting and handling glass, sheet and [illegible] materials, the lifters can be employed as safety grips on smooth surfaces [illegible] which workmen might climb for construction and maintenance work. The new [illegible] types are good examples of this type of application.

▼ REPEAT—Identify by IEN-4974 if you write the maker ▼

HOIST . . Rates ¼ ton at 25 fpm., is driven by belt connected motor

Source: FLINCHBAUGH CO.
753 S. Court St., York, Pa.



Multi-Purpose [illegible] Designation [illegible] suspended from [illegible] connected to a [illegible] geared drum, with [illegible] and hook block. The rope can be [illegible] drawn to the hook or [illegible] assembly for capacity to 250 lb. and hoist speed of 50 fpm. It can be [illegible] through the hook block for [illegible] and load capacity to 500 lb. at 25 fpm.

The motor is a [illegible] hp., 220 volt, 3-phase [illegible] unit. It operates [illegible] to [illegible] to ensure [illegible] which is a [illegible] about 10 percent. It is a [illegible] The pulley shaft [illegible] The [illegible] drum [illegible] to the [illegible] [illegible] Provision is made for [illegible] In addition to [illegible] The assembly [illegible] ground [illegible] power [illegible]

▼ REPEAT—Identify by IEN-4975 if you write the maker ▼

GREENLEE HAND BENDERS . . . for making small-radius bends in pipe, tubing, conduit.

Free Folder and Booklet [illegible]

GREENLEE

▼ REPEAT—Identify by IEN-4976 if you write the maker ▼

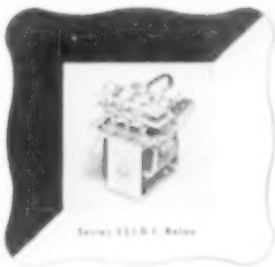
ONE OF THE LINE *of dependable*

GUARDIAN CONTROLS

FOR *Easy Sailing* ALONG YOUR ASSEMBLIES . . .

• Try The Guardian Series 335 E.C. Relay, one of [illegible] Guardian types. A general purpose relay with a wide range of applications, the Series 335 is built to the rigid [illegible] standard of aviation relays. The Series 335 E.C. [illegible] Guardian Relays is now available [illegible]

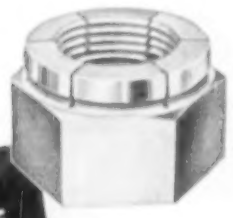
Write for your copy of the new Guardian Catalog 48 featuring Hermetic Relays.



Series 335 E.C. Relay

GUARDIAN ELECTRIC
1627 W. WALNUT STREET CHICAGO 12, ILLINOIS

▼ REPEAT—Identify by IEN-4977 if you write the maker ▼



. . . WON'T SHAKE LOOSE

FLEXLOC

ONE-PIECE SELF-LOCKING NUTS

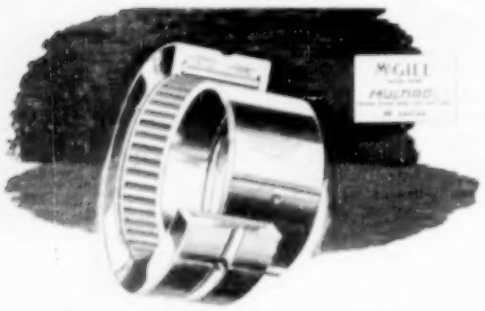
The FLEXLOC is one-piece, all-metal . . . has simple [illegible] and long life. It is a Stop and Lock Nut that can be reused many times. Its "clock like", resilient locking segments lock the FLEXLOC securely in any position on a threaded member. It positively "won't shake loose", yet can be removed easily with a wrench.

[illegible] for [illegible] full of information.

SPS STANDARD PRESSED STEEL CO.

All Makers of Items Used in Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 31

▼ BRIEFITS—Identify by IEN-4978 if you write the maker ▼



exclusive McGILL design provides

extra oil seal protection!

The exclusive design of McGill SE Series of MULTIROD Bearings not only increases load capacity and eliminates loose retaining rings, but also creates an internal lubrication seal providing extra protection against destructive particles. A groove that retains lubricant is built in the inside diameter surface of the roller retaining end shoulder. This lubricating seal, acting against inner race O.D. surface, increases the sealing effect of the precision toler-ance between these shoulders and the inner race.

"Normal SE Series Bearings in standard shaft sizes at 5, 10, 25 RPM or less are nationally used by nationally known users for precision performance and longer bearing life.

"The SE bearings are but one of several Bearing Series built by McGill Manufacturing Company, Inc. Consult McGill engineers on your problems."

Write for Bulletin 41-B, McGill Manufacturing Co., Inc., 300 N. Lafayette St., Valparaiso, Ind.

▼ BRIEFITS—Identify by IEN-4979 if you write the maker ▼

Move it in a Jiffy!

The ALCO-LITE Type 600 Aluminum Warehouse Ladder

The ALCO-LITE Type 600 weighs only 40 lbs. Rear legs are equipped with replaceable rubber-tired casters so that it can be quickly moved from place to place. Ideal for warehousing or general maintenance work. Can be supplied in folding type at no additional cost. Type 601 (not shown) has high handrail surrounding platform.

Write for Industrial Catalog containing specifications for the Type 600, as well as eight other types of ALCO-LITE Aluminum Ladders.

Pioneer Builders of Aluminum Industrial Ladders

ALCO-LITE ALUMINUM LADDERS

ALUMINUM LADDER COMPANY

300 CARBIS STREET • WORTHINGTON, PENNA.

▼ BRIEFITS—Identify by IEN-4980 if you write the maker ▼

CUT STEAM COSTS

SAVE FUEL AND LABOR!

ORR & SEMBOWER, INC.
860 Morgantown Rd. • Reading, Pa.

▼ BRIEFITS—Identify by IEN-4981 if you write the maker ▼

COMPRESSOR . . Engine driven unit operates also as industrial tractor

Source: SCHRAMM INC.
800 E. Virginia Ave., West Chester, Pa.

Pneumatractor combines two assembly of the compact 4 Model 60 and Model 105 engine-driven compressors in self-propelled carriage mount to provide a mobile source for compressed air. The unit also serves as a tractor for normal industrial uses in connection with a line of pneumatic tools, as plaster, blasters, sandblast blades, winches, hammers, brushes.

The smallest Model 60 with the previously developed Underwater engine-compressor takes to city of actual air delivery at pressures to 150 pounds. Compressor and engine each have one cylinder and are equipped of parts 90 per cent interchangeable. The complete unit serves 150 in overall length, 1 the rear 72 in. wheelbase, weighs about 8,200 pounds.

Model 105 takes 105 cu. ft. of actual air delivery at pressures to 125 pounds. Compressor and engine in this case have four cylinders each and the same degree of interchangeability as the small machine. Overall length is 117 in. on a 72 in. wheelbase. Weight is 13,000 pounds.

▼ BRIEFITS—Identify by IEN-4982 if you write the maker ▼

DRILLING . . Lever operated stand mounts ½-in. portable electric drill

Source: SUDENGA IRON WORKS
Sudenga St., George, Iowa

Please note our error

We named the wrong agency instead of the actual maker of the drill stand you asked about (IEN-3000 at 500 Fifth Ave., New York 18, N. Y.). Please note these facts and make your selection directly.

▼ BRIEFITS—Identify by IEN-4983 if you write the maker ▼

LIGHTING . . Fluorescent fixtures for continuous row lighting in a plant

Source: SYLVANIA ELECTRIC PRODUCTS INC.
500 Fifth Ave., 50th Fl., New York 18, N. Y.

New fixture measuring 8-ft. in length for two 75-watt T-12 slimline lamps and a 4-ft. fixture for two 40-watt single-pin lamps have been added to the company's lines of industrial lighting equipment particularly for continuous-row installations. Reflectors are attached to the housing with quick acting latches. Tinted-down tips on the reflectors prevent accumulation of dust. The luminous lens assembly can be removed without tools. Lens-and-frame gasket and hinged assembly clamp to the reflector ends.

Construction includes housing made of 20 gage steel, baked white. Mitered reflector ends, baked gray enamel on the housing. Weatherized treatment for resistance to attack by moisture is standard. Light is diffused. Mounting is made to the ceiling or the suspension rods or chains.

▼ BRIEFITS—Identify by IEN-4984 if you write the maker ▼

MARKING . . Stamp holder and block to fill nameplate blanks in a press

Source: M. E. CUNNINGHAM CO.
99 E. Carson St., Pittsburgh 19, Pa.

Model PSF-10 is a manually operated unit for stamping characters on metal nameplates. The stamp holder is used in two positions. In the vertical position, the stamp holder is used to stamp characters on the nameplate. In the horizontal position, the stamp holder is used to stamp characters on the nameplate. The stamp holder is used to stamp characters on the nameplate. The stamp holder is used to stamp characters on the nameplate. The

▼ ——Identify by IEN-4988 ▼

ABOUT EFFICIENT INSULATED PIPING SYSTEMS

Pertinent facts concerning design, engineering and installation specifications of Rockwil Thermocrete Insulated Piping Systems are contained in the new Rockwil Data Books. They contain accurate and specific information that will answer your problems in insulated piping.

Section 480.2—Engineering and Data Book. Section 480.3—Engineering Piping Drawings. Section 480.4—Rockwil Product Catalog. Section 480.5—Rockwil Tile and Cast Iron Product Catalog. Section 480.6—Rockwil Specifications and Procedures.

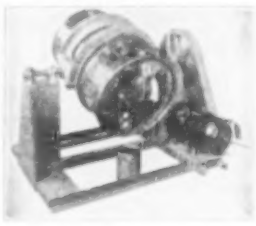
Copies of all the books described are available upon request to Dept. IEN. The Rockwil Company, Cleveland, Ohio.

OVERHEAD | THE ROCKWIL COMPANY · CLEVELAND 5 | UNDERGROUND

THE GIANT NAME IN INSULATED PIPING SYSTEMS

▼ ——Identify by IEN-4989 ▼

MIX YOUR MATERIALS IN THEIR ORIGINAL DRUMS



Motor-driven machine takes drums to 55 gallons, tumbles them end over end.

•

Quick-acting clamp secures and releases drum. No lifting.

•

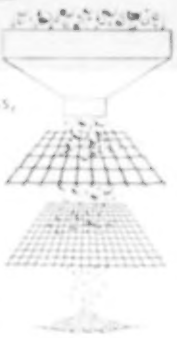
Stops and holds in position to pour all or part of contents.

•

The VOL-U-METER Company
P. O. Box 54 Buffalo 16, N. Y.

▼ ——Identify by IEN-4990 ▼

Super-Tempered
PRECISION SCREENS...



unexcelled for tightness, toughness, accuracy, longer wear

Because Super-Tempered Precision Screens are made from super-tempered steel, they provide unusually high resistance to abrasion and fatigue.

They are woven on specially designed power looms and then tight and opposite outer bands are installed.

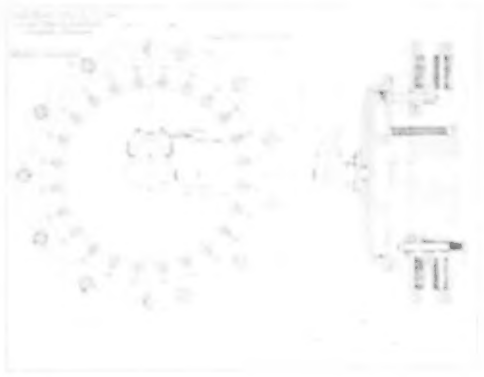
Made in any height required for vibrating screens or trommels. Can be furnished with welded, hooked or machined edge to fit any type vibrator. Write us for our nearest office now.

WIRE CLOTH
WISSCO WICKWIRE SPENCER STEEL DIVISION CLINTON, MASSACHUSETTS
CALWICO THE CALIFORNIA WIRE CLOTH CORP. OAKLAND, CALIFORNIA
DIVISIONS OF THE COLORADO FUEL AND IRON CORPORATION

▼ ——Identify by IEN-4991 ▼

DRIVE . . Combined clutch and brake for repeated start and stop action

Source: INDUSTRIAL CLUTCH CO.
513-17 Frederick St., Waukesha, Wis.



Flex-Disc

A smaller unit

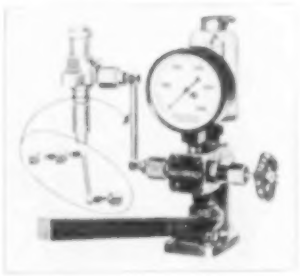
Operation

Installation

▼ ——Identify by IEN-4992 ▼

TESTING . . Hand pump with gage and connector to check diesel nozzles

Source: BACHARACH INDUSTRIAL INSTRUMENT CO.
7002 Bennett St., Pittsburgh 8, Pa.

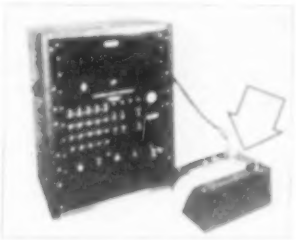


New design of the compact, hand-operated tester for most nozzles presently in use. Direct-acting pump has positive flow with a range of 250 different nozzle settings. The nozzle-test line is 90 deg. swinged out to its point closest that frame so it can be supported with an adapter stud for mounting during Bosch design. A test is made with connection to gage by operating the pump lever of the tester to obtain a steady reading on the dial.

▼ ——Identify by IEN-4993 ▼

COUNTING . . Recorder attachment prints total at end of count interval

Source: POTTER INSTRUMENT CO.
136-58 Roosevelt Ave., Flushing, N. Y.



Count total

Equals four cycles

▼ ——Identify by IEN-4994 ▼

For 100 or 100,000 call on Stanley!

Pressed Metal Division
The Stanley Works, New Britain, Connecticut

5 Reasons Why Stanley is Geared To Give You Better Service:

1.
2.
3.
4.
5.

STANLEY

New York · Detroit · Los Angeles
Chicago · San Francisco · Seattle

HARDWARE · TOOLS · ELECTRIC TOOLS · STEEL STRAPPING · STEEL

▼ ——Identify by IEN-4995 ▼

Follow the NORTON way . . . to More Economical Carbide Grinding

CRYSTOLON WHEELS
DIAMOND WHEELS

Complete Carbide Grinding Service

1.
2.
3.
4.
5.

NORTON COMPANY, WORCESTER 6, MASS.

▼ ——Identify by IEN-4996 ▼

UNBRAKO
KNURLED SOCKET HEAD SHOULDER SCREWS

"HEAD AND SHOULDERS" ABOVE THEM ALL!

UNBRAKO Socket Head Shoulder Screws with Knurled Heads . . . are produced by the newest, most precise methods.

They are quicker for many machine applications. They require no special tools or wrenches. They have no slots, holes or grooves . . . thus eliminating spotfacing operations.

UNBRAKO Socket Screws are available in a full range of thread series . . . other specials to special order.

Write for further details today.

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 80, PENNSYLVANIA

REFER TO INDUSTRIAL EQUIPMENT NEWS IN YOUR INQUIRIES TO MANUFACTURERS SO THEY CAN SEND SPECIFIC INFORMATION

BRIEFIT—Identify by IEN - 4997 if you write the maker

ALEMITE HOSE

For Hydraulic Systems

For Flexible Material Lines

20,000 p. s. i. BURST TEST

2,500 p. s. i. BURST TEST

ALEMITE

Industrial Lubrication Equipment

BRIEFIT—Identify by IEN - 4998 if you write the maker

PLENTY TOUGH when the going's ROUGH!

LAMSON "1035" CAP SCREWS

THE LAMSON & SESSIONS COMPANY

1974 West 85th Street, Cleveland 2, Ohio

Lamson & Sessions "Our Unpredictable Source for All Fastener Needs"

BRIEFIT—Identify by IEN - 4999 if you write the maker

READY TO RUN—IMMEDIATE DELIVERY!

Sutton MOTOR DRIVEN PRESSURE BLOWERS

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY

Sutton Manufacturing Corp. 112 W. WILSON AVENUE NORFOLK, VIRGINIA

BRIEFIT—Identify by IEN - 5000 if you write the maker

MOTOR . . Polyphase, 1 to 20 hp., impervious to corrosive fumes, liquids

Source: WESTINGHOUSE ELECTRIC CORP. P. O. Box 2099, Pittsburgh 30, Pa.

BRIEFIT—Identify by IEN - 5001 if you write the maker

WATER PROOFING . . Liquid solution to treat masonry contains silicone

Source: STOPALL WATERPROOFING MFG. CO. 304-6 Commerce Bldg., Kalamazoo, Mich.

Application data on request

BRIEFIT—Identify by IEN - 5002 if you write the maker

GAGE . . Electronic recorder charts error in gear teeth to .002 in.

Source: MICHIGAN TOOL CO. 7169-73 E. McNichols Road, Detroit 12, Mich.

BRIEFIT—Identify by IEN - 5003 if you write the maker

REFRIGERATING . . Unit cooler, seven sizes rate 645 to 1,228 cfm.

Source: KRAMER-TRENTON CO. 630 Brunswick Ave., Trenton 5, N. J.

BRIEFIT—Identify by IEN - 5004 if you write the maker

VERMIN PROOF! RUST PROOF! WEATHER PROOF! FIRE PROOF!

STONEWALL BOARD

STONEWALL BOARD

The RUBEROID Co.

BUILDING MATERIALS FOR INDUSTRY, HOME, AND FARM

Executive Offices: 500 Fifth Avenue • New York 18, N. Y.

BRIEFIT—Identify by IEN - 5005 if you write the maker

Little Machine BIG JOBS!

Speed Loading - - Unloading of Cars with LINK-BELT ELECTRIC CAR SPOTTER

LINK-BELT COMPANY

SEND NOW for Book No. 1992-A

BRIEFIT—Identify by IEN - 5006 if you write the maker

MAX-WELL-MADE E-Z SET

Boring and Facing Tools

THE MAXWELL CO.

391 BROADWAY • BEDFORD, OHIO

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

▼ ——Identify by IEN - 5007 ▼

TRIPLEX..
your economical source of supply for

SCREWS
CAP . . . to 1" x 8"
SET . . . to ¾" x 4"

BOLTS
LAG . . . to ¾" x 20"
STEP . . . . to ½" x 6"
PLOW . . . to ¾" x 6"
STOVE . . . to ½" x 6"
MACHINE . . . to 1" x 60"
CARRIAGE . . . to 1" x 60"

NUTS
SEMI-FINISHED and CASTELLATED
Sizes to 1¼"

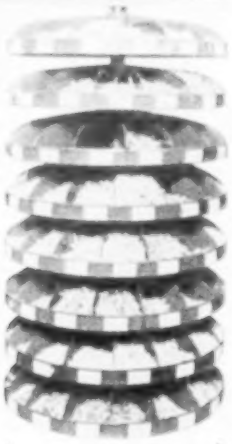
Write or wire your requirements

TRIPLEX SCREW COMPANY
5311 GRANT AVENUE • CLEVELAND 5, OHIO

▼ ——Identify by IEN - 5008 ▼

Economical Storage

ROTABINS



Model 3440 . . . 65½" high
8 Sections . . . $84
Model 3435 . . . 65½" high
7 Sections . . . $75
Model 3420 . . . 37" high
4 Sections . . . $47

IMMEDIATE DELIVERY

All shelves have 3 compartments 21" wide at front. Extra dividers may be used. Model 8 rotates has 120 compartments each 7" wide at front.

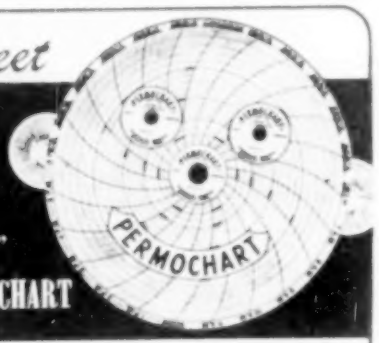
Rotabins turn to the space and storage of the most eight inches of revolving walking area free and reduce storage overhead.

THE FRICK-GALLAGHER MANUFACTURING COMPANY
Sales: 409 Shubert Building, Philadelphia 2, Pa.

FRICK - GALLAGHER
WELLSTON, OHIO
SHELVING • PARTS BINS • ROTABINS • COUNTERS • RACKS • TABLES

▼ ——Identify by IEN - 5009 ▼

Meet



"PERRY" PERMOCHART

Perry says: "Save money with RE-USABLE, LONG-LIFE PLASTIC CHARTS"

You can use WASHABLE, laminated plastic "PERMOCHARTS"* on all your circular recording and controlling instruments. Convenient to use, they'll save you time and expense.

- Guaranteed serviceable life—TWO YEARS
- Cost per day only $.00205 to $.00342
- Available for any instrument using circular charts
- Made of 100% "Vinylite" plastic laminated construction

Send for sample of PERMOCHART construction

*Reg.

ALLEGHENY PLASTICS, INC.
390 CHESTNUT ROAD • SEWICKLEY, PA.

▼ ——Identify by IEN - 5010 ▼

CONTROL . . Flow operated relay opens circuit on cooling water failure

Source: ELECTRO-CHEMICAL SUPPLY & ENGINEERING CO.
748-52 Broad St., Emmaus, Pa.

Esto Water Control is a new flow operated unit designed to operate in the water line used to keep equipment such as a water cooled compressor. The flow of water holds a set of weighted contacts in closed circuit position. A drop in flow or a complete stoppage of water causes the contacts to open and break the circuit by opening the starter switch. The unit prevents the compressor from overheating and seizing. Type S is for open water supply as through a valve line and to waste. Type C is for installations in which the discharge water is under pressure as in connection to an overhead tank for recirculation. Type D is for closed circuit water systems. All have 1-in. pipe connections for inlet and outlet of water. Pressure ratings can be specified for 25 to 300 psi. Dia. to control up to 3 water temperatures simultaneously.

▼ ——Identify by IEN - 5011 ▼

LUBRICATING . . Multi-purpose grease serves a range of operating conditions

Source: SHELL OIL CO.
Room 4237, 50 W. 50th St., New York 20, N. Y.

Grease Inventory is minimized

Alvania [illegible] a new grease produced on a patented [illegible] to [illegible] operation [illegible] The [illegible] is claimed to [illegible] It has excellent mechanical stability and resistance to oxidation. It is stable in storage. It is stated. The applications that it [illegible] include automotive [illegible] and it is [illegible] for use in [illegible] bearings in the [illegible] section of the operation is temperatures continuously up to 250 deg. F. or more.

No. 1 of three grades in the [illegible] are where [illegible] and wide temperature operation are [illegible] No. 2 is for general use. No. 3 is for [illegible] operation.

▼ ——Identify by IEN - 5012 ▼

LADDER . . Aluminum gangway length to 36 feet, width to 28 inches

Source: ALUMINUM LADDER CO.
100 Corbin St., Worthington, Pa.

Also Ltr. GW 500

▼ ——Identify by IEN - 5013 ▼

TESTING . . Electronic detector to locate buried pipe lines, metals

Source: DETECTRON CO.
5635-9 Cahuenga Blvd., North Hollywood, Calif.

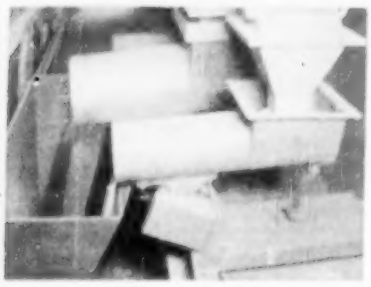
Model [illegible] is a [illegible] [illegible] for [illegible] [illegible] [illegible]

▼ FREE FACTS—Identify by IEN-5017 if you write the maker ▼

SYNTRON

"Vibra Flow"

VIBRATORY FEEDERS



Provide Adjustable Control of Material Flow!

Wherever Bulk Materials—hot or cold, dry or damp—require controls—Syntron Vibrating Feeders will do the job best. Capacities to hundreds of tons per hour.

Write for illustrated folder

SYNTRON CO., 410 Lexington Ave., Homer City, Pa.

▼ FREE FACTS—Identify by IEN-5111 if you write the maker ▼

Need an adhesive

that will meet government specifications for overseas shipment?

Swift & Company has it. It's called Swift 1333-B Adhesive. It is a non-inflammable rubber cement emulsion that does for a thousand things. It will not weight loss. It has been used with exceptional success on many different surfaces — such as — fabric, paper, leather, wood, concrete, or almost anything imposed to most industrial or office requirements whatever.

Popular 1333-B is just one of several Swift Industrial Specific Adhesives for almost every industrial use. Can we help you?

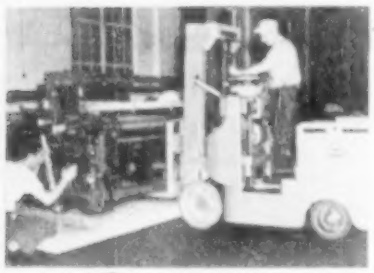
Shoe Factory	Paper Mills
Drawing Materials	Plywood Plants
Rubber Departments	Textile Factories

Swift & Company

Adhesive Products Department

CHICAGO 9, ILLINOIS

▼ FREE FACTS—Identify by IEN-5019 if you write the maker ▼



Precision HANDLING

by ELWELL-PARKERS

Big loads—extra-big loads—odd-size loads—easily to be handled with ease and precision on highly maneuverable Elwell-Parkers. Elwell-Parker's talented engineering, precision construction and rugged appearance make this possible. Simply finger-tip controls give operator complete mastery of the truck at all times. Locking wrists plus a smooth, steady flow of power also helps Elwell-Parkers perform exacting operations like the example shown.

FREE BOOKLET on Scientific Materials Handling. Ask for "Industrial Logistics."

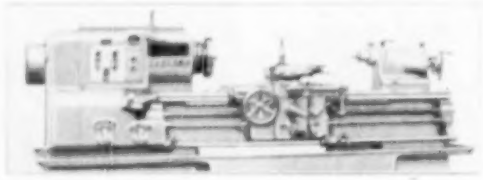
THE ELWELL-PARKER ELECTRIC COMPANY

1062 ST. CLAIR AVENUE • CLEVELAND 3, OHIO

▼ FREE FACTS—Identify by IEN-5020 if you write the maker ▼

LATHE . . Four heavy duty sizes, 12 to 20 in. swing, geared head design

Source: R. K. LeBLOND MACHINE TOOL CO.
49 Edwards Road, Cincinnati 8, Ohio



Four new sizes, 12 to 20 in. have been added to the company's heavy duty 30 to 50 hp. heavy duty engine lathes to provide a line with similar general characteristics throughout.

The 12-in. machine has overall swing of 14¾ in. over the bed and carriage ways. It provides a range of 24 spindle speeds between 25 and 1,200 rpm. There are 60 feed changes between .002 and .106 in. on the thread selection from 2 to 120 per inch. This lathe takes a 7½ hp. 1,800 rpm. motor. Capacity between centers starts at 30 in. and can be increased in increments of 24 inches. The lathe weighs 2,350 lb. complete.

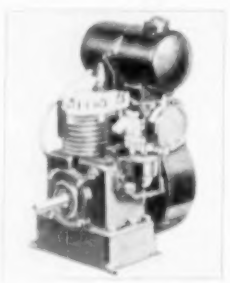
The 20-in. machine similarly swings 27½ inches. It provides a range of 32 spindle speeds between 8 and 800 rpm. There are 60 feed changes between .002 and .208 in. of thread selection from 1 to 60 per inch. This lathe takes a 15 hp. 1,800 rpm. motor operating at 1,200 rpm. Capacity between centers starts at 48 in. and can be increased in increments. The lathe weighs 4,700 lb. complete.

Four 4-page bulletins, 111-510, 111-520, 111-530 and 111-540 on the 12-in., 16-in., 18-in. and 20-in. machines, respectively, provide full dimensional, construction, accessories, specifications and complete specifications.

▼ FREE FACTS—Identify by IEN-5021 if you write the maker ▼

ENGINE . . Air cooled gasoline, two sizes 1.75 and 2.8 hp. at 3,000 rpm.

Source: KOHLER CO.
1230 High St., Kohler, Wis.



Model K-1 and Model K-2 [illegible] engines [illegible] and are [illegible] engines [illegible] and [illegible] engines [illegible] and [illegible] engines [illegible] and

▼ SELECT—Circle No. IEN-5026 ▼

YOU CAN BE **SURE**... IF IT'S **Westinghouse**

TROUBLE SEALED OUT

For Improved Production

Westinghouse Oil-Tite Control Stations and Units are Control-Engineered for improved push-button control performance. Oil, coolant, cutting compound, water are sealed out. Eliminates possibility of breakdown as due to faulty push-button performance. Can be applied to all types of heavy-duty pilot control circuits and controllers. Get complete information from your nearby Westinghouse office, or write Westinghouse Electric Corporation, P.O. Box 868, Pittsburgh 30, Pennsylvania. 15097

Westinghouse

OIL-TITE CONTROL STATIONS

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Acme Offers Complete Facilities for

PRECISION GRINDING

FAST SERVICE... LOW COST

- INTERNAL
- EXTERNAL
- CRUSH FORM
- CENTERLESS
- TWIN DISC
- SURFACE
- THREAD

Acme is equipped to handle all types of precision grinding. Experienced engineering assures production-tested machine equipment will do the job for you faster, better, more economically. Acme also offers a flat lapping service that extends industry's widest boundaries. Write for details.

Acme Industrial Company

Makers of Standardized Jig & Fixture Bushings

210 N. Lotus Street Chicago 7, Illinois

THE SERVICE SHOP TO INDUSTRY FOR MORE THAN 25 YEARS

▼ SELECT—Circle No. IEN-5028 ▼

BRAND NEW MOON TURBINE--

Toughest **built to perform under CONDITIONS**

The *"Little Giant"*

STEAM TURBINE ENGINE

will give you low-cost, trouble-free power production even when the going is toughest. Get an actual job. LITTLE GIANT ran consecutively, and with full efficiency, for months, even through almost submerged in mud.

CHECK THESE SPECIAL NEW FEATURES

GREASE-SEALED BEARINGS

Sealed and lubricated for life, completely eliminating any chance of damage from wet or rubber grinding.

WEATHERPROOF

Controls are completely enclosed — one looks or leaves exposed outside of the turbine. Tropical rains won't stop the LITTLE GIANT.

SPEED CONTROL

New type balanced governor valve and control mechanism provide close regulation — consistently noticeable for clean line.

SAFETY VALVES

Positive type, overspeed safeguards against damage in case of accident to any part of governor mechanism. Sentinel warning valve provides safe operation at all times.

SEND FOR COMPLETE DETAILS TODAY!

Est. **MOON MANUFACTURING CO.** 1893

122 W. JEFFERSON STREET CHICAGO 6, ILLINOIS

▼ SELECT—Circle No. IEN-5113 ▼

METER.. Rotameter tube and float apply in standard pipe fittings

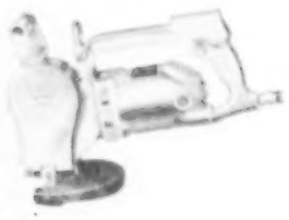
Source: FISCHER & PORTER CO.
83 County Line Road, Hatboro, Pa.

Rotameter consists of a tapered tube of transparent glass and a float which rises and falls in proportion to the rate of flow. The tube, which is mounted in a vertical position, is connected in the line as shown. The fluid to be metered enters the bottom of the tube and passes through a port that is sealed to the top by Teflon packing. The float is guided by the tube and rises to a position where the annular area between the float and the tube is such that the pressure drop of the fluid passing through this area is just sufficient to support the float. The float is free to rotate and is guided by the tube. The tube is made of heat-resistant glass and is available in sizes to meet a wide range of flow rates. Catalog 65, 12 pages, describes and illustrates the complete line of rotameters and their accessories.

▼ SELECT—Circle No. IEN-5030 ▼

SHEARING.. Portable electric tool for straight line work in 6 gage steel

Source: STANLEY ELECTRIC TOOLS DIV.
478-82 Myrtle St., New Britain, Conn.



Cordless No. 298 is a new portable electric tool for straight line work in 6 gage steel. It is designed for use in the fabrication of sheet metal parts, and is capable of cutting 6 gage steel at a rate of 12 inches per minute. The tool is equipped with a 12 inch blade which is guided by a rip fence. The blade is driven by a 1/4 inch motor which is powered by a 24 volt battery. The tool is designed for use in the fabrication of sheet metal parts, and is capable of cutting 6 gage steel at a rate of 12 inches per minute. The tool is equipped with a 12 inch blade which is guided by a rip fence. The blade is driven by a 1/4 inch motor which is powered by a 24 volt battery. The tool is designed for use in the fabrication of sheet metal parts, and is capable of cutting 6 gage steel at a rate of 12 inches per minute.

▼ SELECT—Circle No. IEN-5031 ▼

DOOR OPERATOR.. Motor driven, mounts on ceiling, drives a wire rope

Source: YODER-MORRIS INC.
1064 E. 61st St., Cleveland 3, Ohio

Y-M Chief

Application

▼ SELECT—Circle No. IEN-5032 ▼

HANDLING.. Adjustable grab opens to 12 in., 1 and 3 ton ratings

Source: MERRILL BROTHERS
56-04 Arnold Ave., Maspeth, N. Y.

New Adjusta-Clamp

▼ SELECT—Circle No. IEN-5033 ▼

STOP HYDROSTATIC PRESSURE **LEAKS**

THROUGH CRACKS or HOLES IN UNDERGROUND **WALLS** with

SEEP-SEAL

STOPS THE LEAK IN 2 MINUTES

Stops seepage, even by hydrostatic pressure, through cracks and holes in underground walls or floors. Even one cup keeps a dozen gallons of water a minute from coming in. Simply mixed with water as it leaves the nozzle. Sprayed with Portland cement, sand or mortar or over cracks or around bolts or openings, will set within 2 MINUTES to seal off ALL leakage. Ideal for waterproofing elevator pits, tunnels, subways, manholes and similar structures. Not affected by gasoline, oil or other petroleum products. Write for literature and prices.

Rock-Tite Corporation

629 West Washington Blvd. • Chicago 6, Illinois

In Canada: Rock-Tite Corporation (Canada) Limited, Toronto 5

▼ SELECT—Circle No. IEN-5034 ▼

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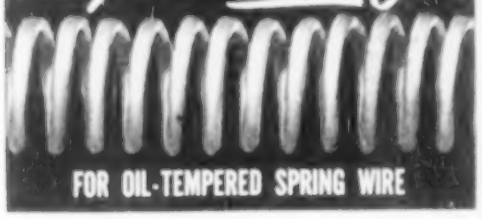
Today it's Roebling!



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PRODUCTION RECORDS show that Roebling Oil-Tempered Spring Wire cuts down machine stoppages and minimizes rejects for users everywhere. This is a quality wire ... every inch identical in gauge and finish ... uniform in all mechanical and metallurgical properties.

Roebling has one of the largest and most modern specialty wire mills in the country. From steel-making to finished wire, every manufacturing process is performed in Roebling's own plants. Special techniques and precision equipment assure a product that saves you preparation time ... brings faster, smoother operation.

Have your Roebling Field Man help you choose the best wire—round, flat or shaped—for best efficiency and economy. John A. Roebling's Sons Company, Trenton 2, N. J.

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WHITNEY CHAIN

Takes the Problem out of your Power Drive Designs

Because Whitney Chains are extremely flexible and adaptable to a wide variety of designs, they meet practically all transmission requirements. Their positive grip delivers full power without slippage — assures uniform speeds. Their rugged construction and hardened-alloy-steel parts provide maximum service with low maintenance. Investigate Whitney Chains and Cut Tooth Sprockets ... the *all steel drives* for your designs and equipment. Write

WHITNEY CHAIN COMPANY

202 Hamilton Street Hartford 2, Connecticut

▼ REEFITT—Identify by IEN - 5036 if you write the maker ▼

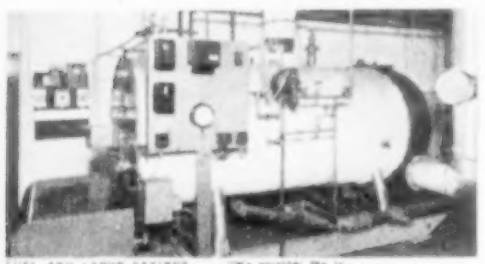
STURTEVANT DUSTLESS BLENDERS

Thoroughly Blend Substances into an Inseparable Mass

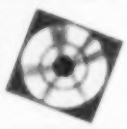
The giant Mixing drum of the Sturtevant Dustless Blenders thoroughly mixes two or more substances into an inseparable whole . . . every part of which is the same material. Simple reversing and discharging opening assures right sealing during mixing process. "Open-door" accessibility permits thorough cleaning. The fast, accurate mixing operation increases output . . . cuts mixing time. Mixing capacities from ¼ cubic ft. to 75 cubic ft. per batch. Write

STURTEVANT MILL COMPANY
118-A CLAYTON STREET, BOSTON 22, MASS.

▼ REEFITT—Identify by IEN - 5037 if you write the maker ▼



FUEL AND LABOR SAVINGS . . . "We consider the installation of the York Shipley Gas Generator one of the finest improvements we have in our building. The saving in fuel and the saving in cost of labor is very noticeable. It is by a large margin more efficient than our coal stoker unit that we operated for several years and which we were always pressed with." Jesse Shaw, Treasurer, Wm. H. Bradford Co., Boston



SUBSTANTIAL SAVINGS

result from

- Steam Pak efficient heat exchange method
- Steam Pak automatic operation with no moving parts
- Steam Pak clean operation

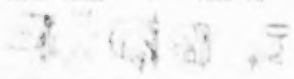
PLUS *this shutter*

Steam Pak Generators are built in capacities from 12 to 75 cu. ft. for 5 to 15 lb. high pressure steam or hot water. Send for Bulletin No. 37 to learn how Steam Pak can help you. If it's time for boiler replacement, don't overlook Steam Pak. Write, wire or phone today.

Simple drawing shows air intake compartment between the fire shutter and boiler. Its valves automatically close off air to boiler.

YORK SHIPLEY

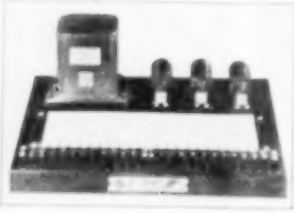
[illegible] YORK PLACE • YORK, PA. • PHONE [illegible]



▼ REEFITT—Identify by IEN - 5039 if you write the maker ▼

CONTROL . . Magnetic amplifier builds weak signal up for practical use

Source: VICKERS ELECTRIC DIVISION
1813-17 Locust St., St. Louis 3, Mo.



Variable, adjustable control speed, motor starting, motor reversing operation, current and voltage relay action, lighting control are changing daylight incidents, message storage systems, conduit fill, [illegible] are some of the applications [illegible] for the company's magnetic amplifier. New designs of the static device consist of sheet-enclosed, rectifier and associated components mounted and wired for a given duty.

Function of it to build up a small signal, such as the output from a detector, sensing such devices as speed, pressure, temperature, liquid level, [illegible] current, and to magnify and govern the signal for control purposes. Several developments in the use of a [illegible] assembly are shown in the illustrations. It appears to simplify [illegible] and new applications. It is stated [illegible] and many applications [illegible] saturating choke. Engineers [illegible] with [illegible] as a source of power.

Bulletin 2802, 24 pages, is a well-written [illegible] to the [illegible] available [illegible] operating and [illegible] instructions and a number of [illegible] diagrams of typical [illegible] arrangements.

Bulletins 2800 to 2806 [illegible] of a practical [illegible] that is available on request. [illegible] are [illegible] sections of industrial control equipment and components. [illegible] details [illegible] of application of [illegible] performance characteristics of each component. [illegible] and physical [illegible] of equipment that has been supplied to [illegible] engineering [illegible] regarding the handbook or bulletins as [illegible] are [illegible]

▼ REEFITT—Identify by IEN - 5040 if you write the maker ▼

PLASTIC . . Laminated sheet for tables, counters, doors, sills

Source: GENERAL ELECTRIC CO.
101 Plastics Ave., Pittsfield, Mass.

Sheet applies with an adhesive

New pattern [illegible] to be known as [illegible] has been added to the company's extensive line of [illegible] sheet. The [illegible] is available in [illegible] developed particularly [illegible] are 24 by 48 in. or 36 by 96 in. in weight, standard thicknesses are ⅛, ¼, ⅜, ½ in. [illegible] to 10% in. in weight, standard thicknesses are ⅛, ¼, ⅜, ½ in. [illegible] to 10% in. in weight.

Resin impregnated [illegible] is made into a single sheet by application of heat and pressure to form a rock-like surface with a color [illegible] pattern and profile in it. [illegible] pressure laylite finish. A [illegible] grade with [illegible] sheet resistant to [illegible] F. without [illegible]. A [illegible] grade with [illegible] sheet of metal foil between the design and [illegible] sheet. This grade will withstand heat from lighted [illegible] and cigarettes without [illegible]. Both grades are [illegible] and stain resistant.

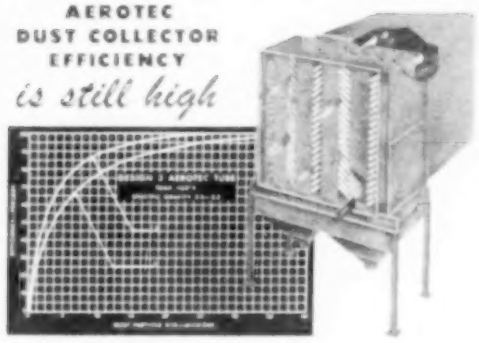
Bulletin GDP-630A, 16 pages, provides detail descriptions [illegible] illustrations showing construction and applications [illegible] purposes and colors are given on a color spread [illegible] suggestions are included for given applications.

▼ REEFITT—Identify by IEN - 5042 if you write the maker ▼

Y[illegible] [illegible] [illegible] [

▼ ——Identify by IEN-5045 ▼

ON *Full* OR *Partial* LOADS
AEROTEC DUST COLLECTOR EFFICIENCY *is still high*



THE THERMIX CORPORATION
GREENWICH, CONN.

THE AEROTEC CORPORATION
GREENWICH, CONNECTICUT

▼ ——Identify by IEN-5046 ▼

LIGHTNIN Mixers

MIXCO Engineered

CUT MAINTENANCE COSTS...
MEET EVERY MIXING NEED
RESULTS *GUARANTEED!*

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There is a LIGHTNIN Mixer for every size or kind operation in your plant. Sizes range from 1/20 to 100 H.P. Every LIGHTNIN Mixer is designed specifically for mixing. That's why LIGHTNIN mixers last years and years, require little maintenance, and give unequalled results. LIGHTNIN have been in operation for years and years. MIXCO engineers are available to give you quick, correct answers to any fluid agitation problem. Every LIGHTNIN is unconditionally guaranteed to do the job for which it is recommended. Write today for full information on LIGHTNIN Mixers and MIXCO complete mixing service.

COMPLETE... READY TO OPERATE
NOTHING EXTRA TO BUY OR BUILD

PERMANENT MOUNTING MIXERS

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MIXERS FOR CLOSED TANKS

LIGHTNIN SIDE ENTERING MIXERS

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MIXCO
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REPRESENTATIVES IN PRINCIPAL CITIES

▼ ——Identify by IEN-5048 ▼

DRIVE . . Flexible coupling rating is 2.2 to 806 hp. at 100 rpm.

Source: LOVEJOY FLEXIBLE COUPLING CO.
4999-03 W. Lake St., Chicago 44, Ill.

▼ ——Identify by IEN-5049 ▼

WELDING . . Aluminum arc electrode particularly to weld aluminum castings

Source: EUTECTIC WELDING ALLOYS
40-42 Worth St., New York 13, N. Y.

▼ ——Identify by IEN-5050 ▼

WOOD WORKING . . Drill set, five sizes, 1/4 to 1/2 in., 1/4 in. shanks

Source: CLEVELAND TWIST DRILL CO.
1240-44 E. 49th St., Cleveland 14, Ohio

▼ ——Identify by IEN-5051 ▼

WHAT'S THE CAPACITY OF A DEEP-DRAWN SHELL?

PRESSED STEEL TANK COMPANY

CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

▼ ——Identify by IEN-5052 ▼

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MAKES BOX SELECTION EASY!

GENERAL ELECTRIC

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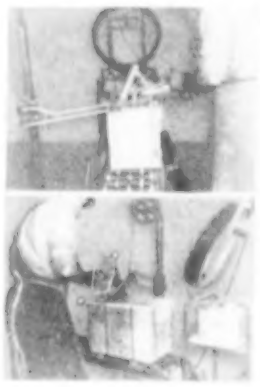
AT 1/3 LOWER COST



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▼ ——Identify by IEN-5054 ▼

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From the simplest paper stencil to the giant "Rug-Tite" pipe marking stencils with adjustable curvature, Pannier Bros. line includes stencils for every marking purpose. For shipping boxes, barrel and keg heads, steel sheets, concrete surfaces, telephone and power line poles, cable reels —whatever the surface or product to be marked, Pannier's complete line assures you of exactly the right type of stencil for legible, economical marking. Write!

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THE PANNIER CORPORATION
101 Pannier Building
Pittsburgh 12, Pa.

▼ Reader Service No. IEN-5057 ▼

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Dust Collection and Recovery?

Every industrial engineer should know about the patented cyclone dust collector above. Exclusive in the Buell dust collection system, it makes possible dust collection that is efficient yet economical. Buell design eliminates plugging. For a full description, write for the new 32 page catalog to: Buell Engineering Co., 70 Pine St., Suite 3030, New York 5, N. Y.

buell

Engineered Efficiency in DUST RECOVERY

▼ Reader Service No. IEN-5058 ▼

COMPRESSOR . . Rotary vane design 3.8 to 21 cfm. for pressure to 30 lb.

Source: GAST MFG. CORP.
119 Hinkley St., Benton Harbor, Mich.

▼ Reader Service No. IEN-5059 ▼

SWITCH . . Sensitive snap acting, ¾ in. housing, 5 amp., 220 volt ac.

Source: MICRO SWITCH CORP.
30 E. Spring St., Freeport, Ill.

▼ Reader Service No. IEN-5060 ▼

PRESSES . . Technical article reprint on how to form a bulge in wall of a cylindrical part

Hydraulic Press Mfg. Co.
Box 1000, Eagle Ave., Mount Gilead, Ohio

Bulged sidewall of a cylindrical container is the subject of a reprinted article offered on request by the company as a free service. "How Make the Design is Cooked Puts" How the most economical shape was developed experimentally is discussed. Drawings, tests and pictures. Expert forming problems were employed in the operations.

10 Makers of Press And All Other Products Are Listed in THOMAS' REGISTER Descriptions Ratings See Page 96

▼ Reader Service No. IEN-5061 ▼

UNIVERSAL INDUSTRIAL CONVEYOR

Low First Cost . . . . Low Maintenance

Furnished in 8 lengths— 8, 12, 16, 20 and 24 feet.

- Ideal for gravity handling large quantities of parts.
- Heavy gauge, welded steel construction, fully assembled, ready for operation.
- Elevates to desired height with gentle sweeping motion.
- Driven by motor and chain (belt to order) to any required point.
- Many accessories, such as feeder, spacer, etc., available with conveyor.
- Standard belt width 12 inches. Other widths can be furnished to meet your requirements.
- Belt speed 74 F.P.M. adjustable if desired.

INDUSTRIAL ENGINEERING & MFG. CO., INC.
BRIMFIELD, INDIANA, U.S.A.

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Increase Payload . . . Reduce Cost

LIGHTWEIGHT

CHEMICALLY HARDENED CORRUGATED BOARD

NO MAINTENANCE

Over 100 Stock Sizes Available Now

CONVOY, INC. CANTON 7, OHIO

▼ Reader Service No. IEN-5063 ▼

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● Biggest news in industrial spray-painting today is the GRACO PAINTMASTER, now making sensational cost cuts in major automotive, aircraft, furniture, battery and many other manufacturing plants. New principle of agitating and spraying paint uses a gear pump—*not air*—to deliver paint to gun. Two models, 5 gal. and 55 gal., pump direct from drum or pail without transferring. Low pressure saves up to 25% on paint. Great savings on labor costs. No aeration. If you want to cut painting costs, write or wire today for complete information.

55 GAL. UNIT Complete with hoses, no gun $185.00

5 GAL. UNIT Complete with hoses, no gun $159.50

GRACO *Paintmaster*

GRAY COMPANY, INC.
1 Grace Square, Minneapolis, Minn.

▼ Reader Service No. IEN-5064 ▼

Mechanic's INSPECTION TOOLS WITH REPLACEABLE MIRRORS!

- Perfect visibility all around
- Easily turned 360° ball joint
- Keep position until re-angled
- Sizes and shapes to meet all job conditions
- Replaceable mirrors
- Magnifier mirrors slightly higher

Write for Catalog IEN when ordering

ULLMAN PRODUCTS CORP. ULLMAN BLDG. B'KLYN 15, N. Y.

▼ ADDITIONAL Details by IEN - 5065 ▼

Line-O-Power STRAIGHT LINE DRIVES

A new line of compact units incorporating Foote Bros. Duo-Ratio gearmotor gears. Line-O-Power Drives are economical in original cost and economical to operate. Large capacity construction bearings and husky output shafts assure maximum overhung load capacity. Double and triple reductions for capacities from 1 to 200 h.p. Ratios from 5 to 1 up to 238 to 1 are available for prompt delivery.

FOOTE BROS. GEAR AND MACHINE CORPORATION
[illegible] Chicago 9, Ill.

WRITE for BULLETIN LPA

FOOTE BROS.
Better Power Transmission Through Better Gears

▼ ADDITIONAL Details by IEN - 5066 ▼

RAVENSWOOD PORTABLE DIAL SCALE AT A NEW LOW PRICE

With engineered simplicity we have perfected this new Ravenswood Scale.

Less number of working parts. No complicated pendulum system. No cams — no tapes. High sustained accuracy. Precision ground pivots and bearings — temperature compensated springs — sturdily built — streamlined in appearance.

DIAL HEAD MAY BE PURCHASED SEPARATELY

If you now have your old platform beam scales you can transform them into portable dial scales by simply purchasing our Dial Heads and affixing them to your present scales.

A beautiful Dial Head with plate glass cover, aluminum housing, easily read dial, 18 inches in diameter, supports Suit Bo... Suit Bo... Suit Bo... etc.

The hydraulic dash pot controls oscillations of dial indicator.

Write today for Illustrated Circular RA-1 on the Dial Scales or the Dial Head alone.

DEALERS Write for special offer on Dial Heads and Illustrated Folder.

STREETER AMET COMPANY
4101 Ravenswood Avenue
CHICAGO 13, ILLINOIS
The Standard of Accuracy Since 1888

▼ ADDITIONAL Details by IEN - 5068 ▼

HOIST . . Motor driven chain design, 500 to 1,500 lb., 16 ft. standard lift

Source: YALE & TOWNE MFG. CO.
4528-32 Tacony St., Philadelphia 24, Pa.

The load chain [illegible]

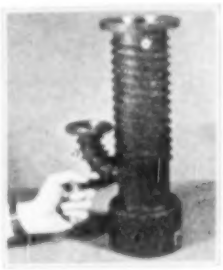
Four assemblies [illegible]

The trolley [illegible]

▼ ADDITIONAL Details by IEN - 5069 ▼

PUMP . . Diffusion vacuum unit, three stage fractionating jet assembly

Source: DISTILLATION PRODUCTS INDUSTRIES
753-57 Ridge Road, Rochester 13, N. Y.



Type MCF-[illegible] [illegible]

The pump employs a 3-stage [illegible]

▼ ADDITIONAL Details by IEN - 5070 ▼

Big Shaper Performance Small Shaper Price

SHELDON
CHICAGO

SHELDON MACHINE CO., Inc., 1258 N. Kilpatrick Ave., Chicago 51, Illinois

All Makers of Items And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 30

▼ ADDITIONAL Details by IEN - 5071 ▼

MULTIPLE DRILLING

MULTI-DRILL

INCREASES CAPACITY UP TO 700%

ADJUSTABLE TO ANY HOLE PATTERN
FITS ANY DRILL PRESS

COMMANDER MFG. CO.
6215 WEST KINZIE ST. CHICAGO 24, ILLINOIS
Product of Commander — Builder of the Commander Tapper

▼ ADDITIONAL Details by IEN - 5072 ▼

THERMOBLOC
The Flexible Self-Contained
INDUSTRIAL HEATING UNIT

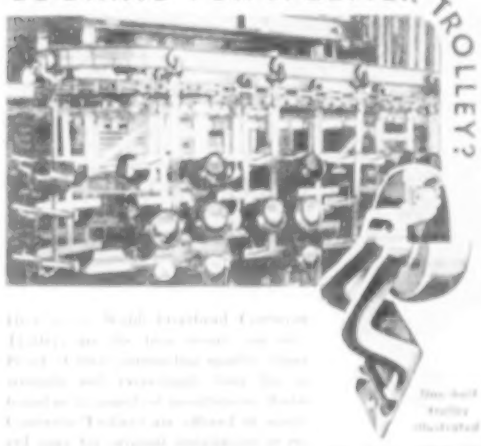
Shipped from the factory complete, ready to go to work on a wide variety of heating applications, THERMOBLOC may be just the answer you have been looking for.

Write for data book B100 giving handy information on figuring heat losses.

THERMOBLOC DIVISION
PRAT-DANIEL CORPORATION
Manufacturers of Thermix Power Equipment
78 S. Water Street E. Port Chester, Conn.

▼ ADDITIONAL Details by IEN - 5073 ▼

LOOKING FOR A BETTER TROLLEY?



Box-built trolley illustrated

JERVIS B. WEBB COMPANY
MANUFACTURERS OF OVERHEAD AND FLOOR TYPE CONVEYORS . . .

OFFICES IN PRINCIPAL CITIES
8915 ALPINE AVE.
DETROIT 4, MICH.

▼ BRIEFITT—Identify by IEN-5074 if you write the maker ▼

STOW presents a NEW portable POWER TOOL

STOW JIFFY TOOL

- GRINDS
- FILES
- DRILLS
- POLISHES
- BUFFS
- SANDS
- ROUTS
- BRUSHES

$57.40

Yes, the Stow Jiffy Tool does all these jobs . . . at a constant 1750 R.P.M. And this new portable machine is priced so low that no tool room, garage or shop need do without one!

Order Today $44.90

Write Today for Literature on STOW JIFFY TOOLS!

STOW MANUFACTURING CO.
25 Shear St. Binghamton, N. Y.

▼ BRIEFITT—Identify by IEN-5075 if you write the maker ▼

PROTECTED OUTSIDE ...COOLER INSIDE!*

ONE COAT COVERAGE DOES BOTH JOBS

NEW FREE BOOK tells how with the right aluminum paint you can protect metal buildings outside against moisture and rust at the same time keep them many degrees cooler inside when the sun is hot. Alcoa does not make aluminum paint but we have prepared this book to help you buy and apply it right.

If you've been buying aluminum paint without the information this book contains, it may save you the aluminum paint it describes—our paint knowledge is out of date. New pigment and vehicle developments have revolutionized aluminum paint performance. This book tells how to select the best and apply it for greatest service. It includes coverage tables, facts on correct types of "roll-coated" aluminum paints for metal, masonry or wood, inside or out—and for heated surfaces.

This valuable book will be sent by return mail. Attach this coupon to your letterhead.

ALUMINUM COMPANY OF AMERICA
Paint Service Bureau, 1744R Gulf Bldg., Pittsburgh 19, Pa.
Please send me free copy of "Painting with Aluminum"
Name (Please print)
Address
City State
Also please send me the following:

Look for this shield on aluminum paints made by many paint manufacturers using ALCOA PIGMENTS.
*The RIGHT aluminum paint for this job is ALUMINUM METAL & MASONRY PAINT.

▼ BRIEFITT—Identify by IEN-5077 if you write the maker ▼

JIG GRINDING . . Precision machine for hole truing and contour finishing

Source: MOORE SPECIAL TOOL CO.
745 Union Ave., Bridgeport 7, Conn.

Two sizes are now available in the complete line of grinders. Both types of machines have a table which moves in a straight line and an arm which swings in a circle. Both types of machines have a grinding spindle which moves in a vertical line. Work pieces are clamped on the table and the grinding wheel is lowered into the work. Circular grinding is accomplished by swinging the arm. Linear grinding is accomplished by moving the table. Combinations of both movements are used for contour grinding. Table movement is controlled by micrometer screws. Arm movement is controlled by micrometer screws or by a cam. Work pieces are clamped on the table. The grinding wheel is lowered into the work. The table moves in a straight line. The arm swings in a circle. Combinations of both movements are used for contour grinding.

The new grinder [illegible] Fig. [illegible] series with precision [illegible] and [illegible] and [illegible] [illegible] [illegible]

▼ BRIEFITT—Identify by IEN - 5083 ▼

DO YOU HAVE A "SPECIAL" JOB FOR STRAPPING?

A manufacturer of knock-down concrete home incinerators solved the on-the-job erection problem with an A. J. Gerrard Portable Strap Kit.

With 11 different kinds of strapping available, your fastening or tying problem can be easily solved also by the A. J. Gerrard improved method.

Write Catalog No. 4000-50 for more information

STEEL STRAPPING

A. J. Gerrard & Co.

1950 Hawthorne Blvd., Melrose Park, Illinois (Chicago Suburb)

▼ BRIEFITT—Identify by IEN - 5084 ▼

UNIVERSAL's EZEBILT Rolling Maintenance Tower

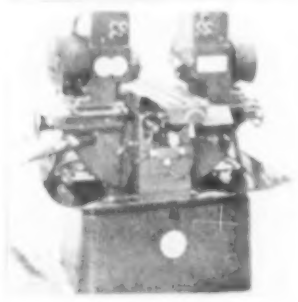
Write for nearest distributor — or new Scaffold Catalog

UNIVERSAL MFG. CORP.
107 North Street Zelienople, Pa.

▼ BRIEFITT—Identify by IEN - 5086 ▼

MILLING . . Horizontal machine mounts independent opposed spindles

Source: NICHOLS-MORRIS CORP.
50 Church St., Room 508, New York 7, N. Y.



Independent heads

Table movement

Distance

▼ BRIEFITT—Identify by IEN - 5087 ▼

PROCESSING . . Paper-making machine to produce corrugated packaging sheet

Source: SANDY HILL IRON & BRASS WORKS
27 Allen Road, Hudson Falls, N. Y.

The company

The process produces

All Makers of Items And All Other Products Are Listed In THOMAS REGISTER Descriptions Ratings See Page A1

▼ BRIEFITT—Identify by IEN - 5088 ▼

Master-Cut
SAW BLADES
GIVE YOU Extra Features
AT PRICES NO HIGHER
Why be satisfied with less?
Standard stock sizes— 2", 4", 5", 6", 8" dia. 1/32" to 3/16" thick.
Pay no more, but get extra value! Finest high speed steel. Strong tooth form; teeth, of uniform height, have correct rake angle to speed cutting. Side clearance and flat hub prevent binding; rigid holding. Dual Drive reduces breakage. Extra features, but no extra cost!

Master-Cut slitting saw blades can be supplied from stock or Quad Drive in counterbore key drive type.

Get full details in Bulletin 226-G

THE MOTCH & MERRYWEATHER MACHINERY CO.
PENTON BUILDING CLEVELAND 13, OHIO

AT YOUR COMMAND • AN UNPARALLELED EXPERIENCE IN CIRCULAR SAWING

▼ BRIEFITT—Identify by IEN - 5090 ▼

Alnor Velometer

Gives instant, direct reading of Air Velocity —Anywhere!

Here's a precision-built, self-contained, portable instrument that gives instant, accurate reading of air velocities—anywhere, in plants, mines, or mills. Measures speed of flow through ducts, grilles, motors, furnaces, or in the open. Needs no calculations or reference charts. Anyone can use it and get accurate measurements. Available in a wide range of scales, and with a wide assortment of jets and fittings if needed. You'll want full details and prices, so write for Bulletin No. 2448-b. Illinois Testing Laboratories, Inc., Room 517, 420 N. LaSalle Street, Chicago 10, Illinois.

Alnor

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▼ BRIEFITT—Identify by IEN - 5085 ▼

Need Rails?

NEW or RELAYING
Longest Stocks in U.S.A.

L. B. FOSTER CO.

NEW YORK 7, N. Y. · CHICAGO 4, ILL. · PITTSBURGH 30, PA. · HOUSTON 2, TEX.

▼ BRIEFITT—Identify by IEN - 5088 ▼

BANISH "Booby Trap Showers" with the DOUBLE Safety of

POWERS

THERMOSTATIC SHOWER MIXERS

MAY WE SEND CIRCULAR #187?

WRITE
THE POWERS REGULATOR CO., 2720 Greenview Ave.
CHICAGO 14, ILLINOIS • Offices in over 50 cities

▼ BRIEFITT—Identify by IEN - 5091 ▼

AMERICAN PRESSED-STEEL HAND TRUCKS

-built like a Motor Truck Frame!

50 MODELS AND SIZES

The American Pulley Company

4260 WISSAHICKON AVE., PHILADELPHIA 29, PA.

NAME
COMPANY
ADDRESS
CITY STATE

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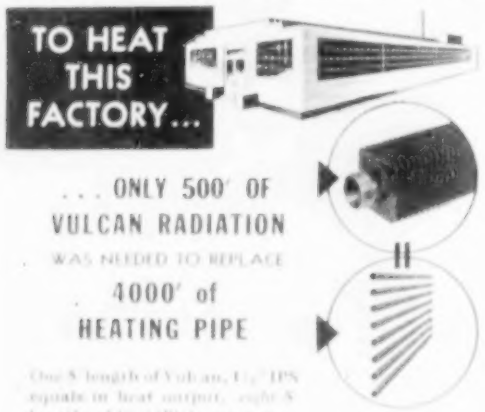
▼ Request Literature by IEN - 5093 ▼


TO HEAT THIS FACTORY...
. . . ONLY 500' OF VULCAN RADIATION
WAS NEEDED TO REPLACE
4000' of HEATING PIPE
One 8 length of Vulcan, 1 1/2" IPS equals in heat output, eight 8 lengths of 1 1/2" IPS heating pipe.
More heat in less space. Light in weight, easy to install. Requires few fittings and supports. Comes in any desired length . . . ends threaded or chamfered.
For steam or forced hot water. Sizes 2" and 1 1/4" IPS in steel or copper. Attractive covers.
Write for further details.
THE VULCAN RADIATOR CO.
26 FRANCIS AVE., HARTFORD 6, CONN.
REPRESENTATIVES IN PRINCIPAL CITIES

▼ Request Literature by IEN - 5094 ▼

THIS SMALL PUMP CAN DO BIG THINGS FOR YOU
IN PRESSURE LUBRICATION
ON HYDRAULIC MECHANISMS
FOR FUEL OR LIQUID TRANSFER
TUTHILL PUMP COMPANY

MAY 1950 INDEX TO ALL PRODUCTS

How to find what you need:

Leaf through the issue with your product ready in mind, noting those boxed ads that appeal to you as suitable to your problem, or that meet the needs pictured.

Next use this index to find all other suppliers advertising in this issue or listed in the catalog section. Then, for additional information, write to the suppliers you have chosen, mentioning IEN.

Now take one subject at a time and refer to the pages you have noted. Then read the editorial descriptions and advertisements in detail. Then write the IEN numbers on which you want further information on your Reader Service Card to get it to us quickly. No manufacturer loses!

If you have trouble in finding the product or equipment you need through the subjects in this issue, let us know. We can make searches of supply with the help of our Editorial Index of all products that have appeared in IEN. Any questions and suggestions will be welcomed at our "What I Need" column to make it more helpful.

A
Abrasives
Adhesives
Aerating
Air Conditioning
Alloys
Aluminum
Amplifiers, Magnetic
Anchors
Anodizing
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Bearings
Belts
Blowers
Boilers
Brazing
Brushes
Building
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Castings
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Cleaning
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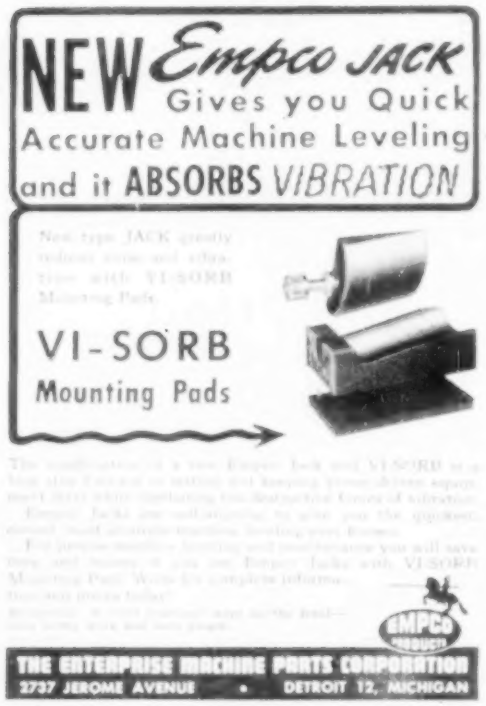
▼ Request Literature by IEN - 5096 ▼


NEW Empco JACK
Gives you Quick Accurate Machine Leveling
and it ABSORBS VIBRATION
New type JACK greatly reduces noise and vibration when used with VI-SORB Mounting Pads
VI-SORB Mounting Pads
EMPCO "PRODUCT"
THE ENTERPRISE MACHINE PARTS CORPORATION
2737 JEROME AVENUE • DETROIT 12, MICHIGAN

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DELTA
MILWAUKEE
DELTA
–the most complete band saw line has a machine that fits your job and budget best!
A size that suits you!
Mail coupon for catalog
20" Band Saw

▼ Request Literature by IEN - 5097 ▼

AND SERVICES IN THIS ISSUE

MAY 1950

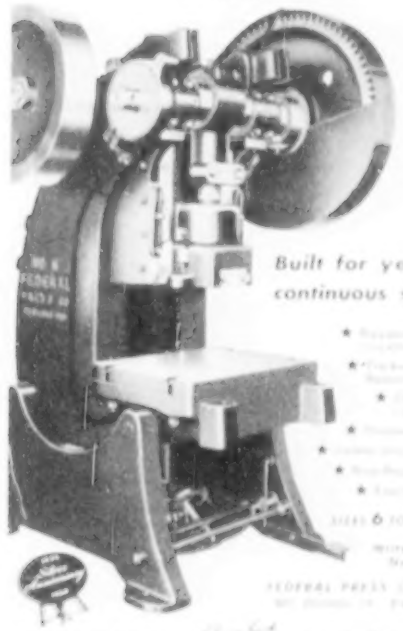
[table of contents]

▼ IEN-5098 ▼

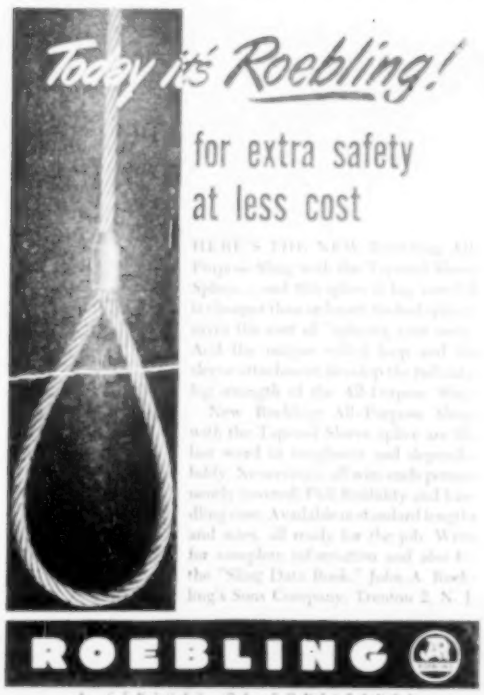
▼ IEN-5101 ▼

VALVAIR GIVES YOU . . .
Any CONTROL ASSEMBLY
ON A STANDARD VALVE BODY
. . . because parts are
Interchangeable
VALVAIR CORPORATION • 434 Morgan Avenue, Akron 11, Ohio
AFFILIATE: SINCLAIR-COLLINS VALVE CO.
Rely Upon Valvair

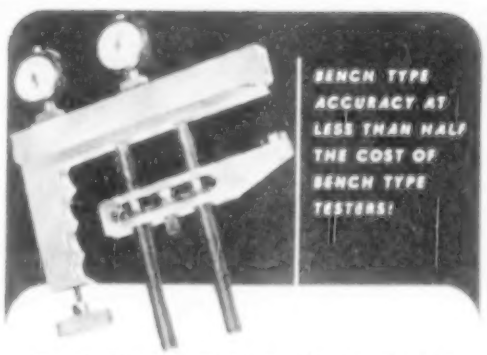
▼ IEN-5102 ▼



▼ IEN-5099 ▼



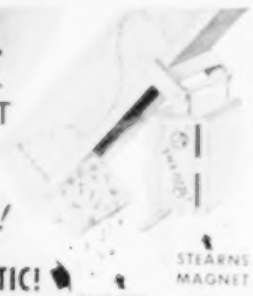
▼ IEN-5100 ▼


BENCH TYPE ACCURACY AT LESS THAN HALF THE COST OF BENCH TYPE TESTERS!
PORTABLE HARDNESS TESTER
FOR DIRECT DIAL ROCKWELL READINGS
WRITE TODAY FOR ILLUSTRATED BULLETIN AND PRICES
RIEHLE TESTING MACHINES

▼ IEN-5103 ▼

BRIEFLY—Identify by IEN - 5104 if you write the maker

Stearns POWERFUL PERMANENT MAGNET costs less than you think! ITS AUTOMATIC!



STEARNS MAGNET

If you are interested in keeping your production costs down — choose a STEARNS PERMANENT MAGNET with Automatic Tramp Iron Discharge* — the ONLY permanent spout magnet that cleans itself automatically. Eliminate the time required for tedious hand cleaning by using a STEARNS magnet. Just push the handle, and the tramp iron is automatically discharged. Protect your grinders and screens the STEARNS way; complete tramp iron removal with one pass of material. Has Class "A" rating.

*Covered by U.S. Patent

it costs more than you think

TO USE A MAGNET YOU MUST CLEAN BY HAND!

Stearns MAGNETIC MANUFACTURING CO.
626 S. 29TH ST., MILWAUKEE 15, WIS.

BRIEFLY—Identify by IEN - 5105 if you write the maker

Another A-F Conveying System Drums Up Production!

You can SEE the Superiority of A-F Engineering!

In two large plant heavy oil drums are handled more quickly, easily and economically because of the A-F plant wide Engineered Conveying System. At this point is a scale for weighing the filled drums which move on the A-F Live Roller Conveyor line at right angles to A-F Gravity Roller Conveyors in storage—ready for moving at an instant's notice to shipping. How can an A-F Conveying System increase production for you? Write today!

THE ALVEY-FERGUSON COMPANY
141 Disney St. Established 1901 Cincinnati 9, Ohio
Offices or Representatives in Principal Cities

CONVEYING EQUIPMENT
Alvey-Ferguson
WASHING MACHINES FOR INDUSTRY

"I WISH I HAD"

This column concentrates upon reader requests for information on sources of supply for products or services or technical advice which we ourselves cannot supply, advance use of new patent-protected products for your possible manufacture, and available surplus of specialized products.

It is published to invite your suggestions and comments, which are forwarded immediately to the originator, just as we will be happy to publish similar problems for you.

CLEANING — "I would like to find a name for a complete manufacturer of the machinery or supplies for cleaning mechanisms or machines and all the accessories or supplies for cleaning equipment or machines, and the name of the manufacturer or the general agent for it in Switzerland." IEN W-26

COMPRESSORS — "I want to find a supplier for one reciprocating type compressor, double acting, 400 cu. ft. capacity per minute, 100 lbs. working pressure, one cylinder, motor driven, belt drive. The Buda gas is Natural Gas." IEN W-24

CONVEYOR — "I want to find a source for one 50 ft. of gravity roller conveyor, straight, double flanges, 8½ in. to handle 24 x 24 in. containers, on a frame, width measured 24 inches. The rollers are on 3 in. centers and are on ¾ in. bores the outside and center frames. The conveyor is to be portable." IEN W-17

ENGINEER — "I wish I had contact with a company requiring the services of an engineer 26 years old, married and holding a BS. Degree in Mechanical Engineering from Massachusetts Institute of Technology. I am at present in Wellington, New Zealand." IEN W-22

ENGINEER — "I wish I had contact with a manufacturer requiring the services of an engineer experienced in time engineering, product layout and plant operation. Preference is to work on sheet steel or metal fabricating plant or metal finishing plant. I am a registered engineer with membership and civil degrees and am located at present in New York City." IEN W-14

LOCOMOTIVES — "I want to find a source for a small steam locomotive to run 10 to 15 miles per hour. Track would consist of 30 lb. rail on 30 inch gauge." IEN W-23

NEW PRODUCT — "I wish I had contact with a manufacturer in search of new products for a plastic I have for a wax or oil impregnated." IEN W-28

NEW PRODUCT — "I wish I had contact with a firm to market various new products and patents. I have a number of inventions and patents pertaining to the electrical field, such as electrical controls, electrical appliances, etc. I would like to contact a firm with selling ability, who would be interested in selling on a royalty basis. The basis of the case is an electrical device, which is patented and protected, and can be used over and over again without any expense. I have a number of other inventions which I would like to market on a royalty basis." IEN W-25

NEW PRODUCT — "I wish I had contact with a manufacturer who is interested in a portable arrangement primarily." IEN W-29

PLANT LOCATION — "I would like to find a location for a small plant to manufacture a line of fishing tackle. Would like to find a location where there is a labor supply, preferably a small town, where we can get a building at a reasonable rental. We have approximately 10 employees and would like to find a location where we can get help at approximately this number. We have additional machines and power available for our present power needs. Would like to find a location where we can get power available for our present power needs. Would like to find a location where we can get power available for our present power needs. Would like to find a location where we can get